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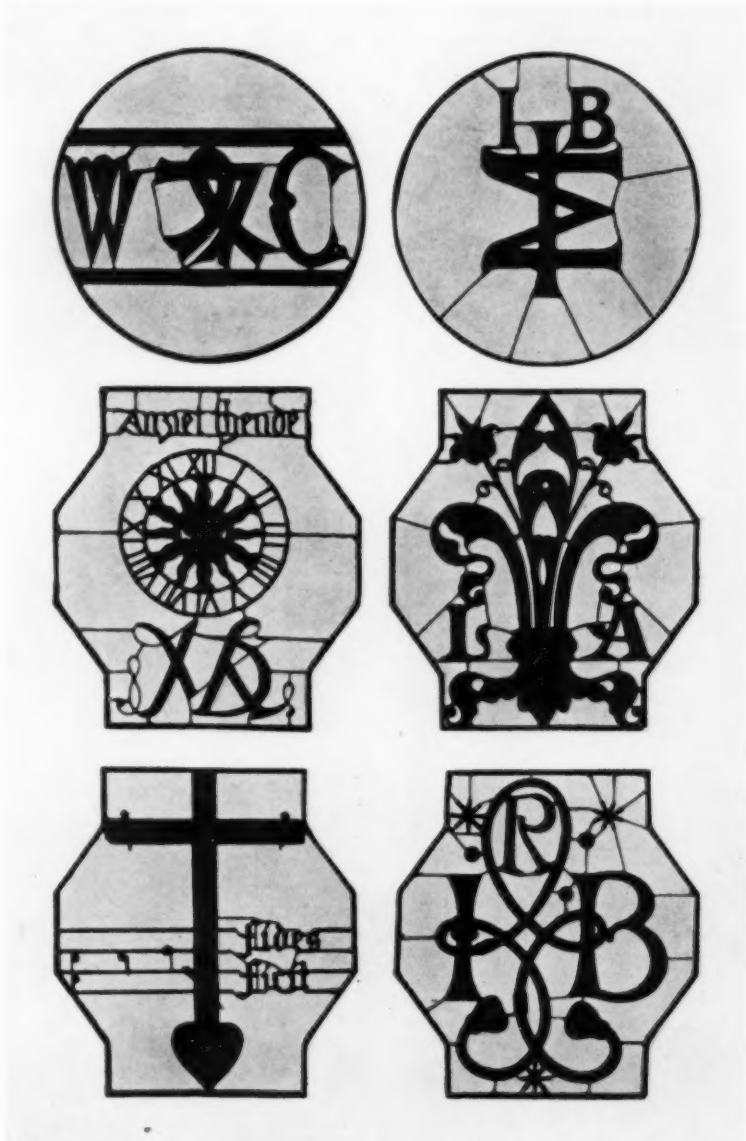

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TWO HARDMAN WINDOWS IN ST. MARY'S CHURCH, GREENWICH, CONN.

The
Architectural Record

Vol. XXII SEPTEMBER, 1907. No. 3.

Some Recent Skyscrapers

We are fond of imagining, or of calling upon others to imagine, the sensations of an old New Yorker if he could revisit the glimpses of the metropolitan moon, now represented by Welsbach burners. Manhattan revisited, even by a visitor of an even generation ago, how it would make him stare and gasp. The aspect even of the oldest and longest-settled part of the island has changed more since 1874 than it had changed in a century, in two centuries, nay, almost in three centuries before. Hudson himself, sailing into the upper bay even so lately as 1874, would have recognized the island which he sighted in 1609. But he would scarcely recognize it now. For the gentle acclivity which then would have greeted him, though so builded and peopled as to show that a great city had displaced the woodland, was not so built up as to disguise the lie of the land. But now the aspect is of a city set on a hill. "Surely," the explorer would now say, "there was no such mountain as that when I was here before." He could account for the apparent topographical change only by supposing a seismic upheaval or the advent of a new geological period.

But there is no occasion for going back centuries or even generations, not even one generation. The visitor who remains out of town or even up-town for a single year, finds down-town transformed in that brief interval and threatening always still stranger transformation. That fabulous time

When Ilion like a mist rose into towers

is realized now and here. It is a kaleidoscopic, a phantasmagoric change, bewildering and stupefying in the mass, with no ensemble but that of universal strife and struggle. "The very buildings," as our English critic has it, "cry aloud of struggling, almost savage, unregulated strength," unregulated by law, unregulated by custom or comity. The skyscraper remains "ferae naturae," not only remains, but monthly more becomes. And yet there is so much "ensemble" even of individualism that the indiivduals are merged in the riot, as in a street in which every shopkeeper tries to make himself conspicuous by his staring sign, and all together frustrate their several intentions. Truly, instead of not being able to see the forest for the trees, you cannot see the trees for the forest. It rquires self-restraint and wilful abstraction and absorption to select and consider an individual among the mob. Still, with the help of a photograph, you may "sit down before" a particular building and try to judge it. And to do this with a certain number of recent and typical instances is the purpose of this paper.

Seniores priores. The "new" Tribune building was the wonder of New York that generation ago of which we were speaking, that and the original Western Union which was under construction at the same time. The wonder mainly by reason of its altitude. Consider that its seven stories and double decked dormers towered over everything. Professor Huxley, visiting these shores three or four years later, took it as an instance of

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our utilitarian turn of mind. The two edifices, he said, which rose like Sauls above their fellows, as the visitor steamed up the bay, were not castles or cathedrals or fortress towers as they would have been apt to be in an old-world port, but a telegraph office and a newspaper office. These were the pioneers in which for the first time the change wrought by the passenger elevator was fully recognized in design, and they were designed on quite different theories. In the Tribune building, Mr. Hunt attempted to make groups of stories take the place as members of his composition of the single stories of the earlier and lower commercial building. In the Western Union, Mr. Post anticipated the present convention by which the basement and the roof were distinguished and the stories between were treated with a similarity amounting in effect to identity. The Tribune building mainly suffered, however, from its bichromatic treatment in brick and granite, so applied as almost to give the impression that a building conceived as a monochrome of red had afterwards been patched with gray. The building thus did not do justice to the design. But what would the architect of the original building have said if he had been told at the time of its erection, that, a generation afterwards, and a decade after his own death, it would be found expedient and profitable to double its height, impossible, in fact, to leave it at the old height without falling out of the commercial competition.

Upon the whole, the heightening has been done with tact and discretion. The brick and granite part of the superposition becomes the middle member of the composition. The old building has practically been duplicated in it, and the whole forms a fairly well balanced triple composition. The narrow bay signalized by the entrance at the bottom and the tower at the top, which the original architect introduced as he explained to soften a change of direction in plan, "dissembling thus the irregularity of the front," had a tendency already to spindle and necessarily spindles much more now when the height is doubled. The slender pier, however, which runs from the ninth story to the twelfth, inclusive, seems to spindle unnecessarily and its tenuity becomes rather painful. But the general scheme of the superposition is reasonable and the result effective, and it is very well carried out. The building is architecturally the better for the addition and that is praise that can only infrequently be bestowed. As to the detail, it is all frankly taken from the detail below, excepting the metal work of the dormers which has been substituted, perhaps questionably, for the huge granite frames that were relieved against the former roof. The rebuilder's only care as to the detail was to place it, and this he has succeeded in doing very acceptably.

Doubtless the loudest of the new lions is the United States Realty Building, on the site, more or less, of the Boreel Building. At least, in conjunction with the Trinity Building across the widened alley, down whose dark defile one used to go (eheu, fugaces) to where the hands of "Old Tom" used to "reach"

> To each his perfect pint of stout,
> His proper chop to each.

The twin towers (not chronologically twins, for the northernmore is months if not years the younger) together outroar for a moment the architectural rattle of Broadway and arrest the stranger. Each without doubt profits by the juxtaposition of the other, as the elder profits greatly by its confrontation with the yet older Empire Building across Trinity church yard, counterparting frontages to the effect of which nothing in its kind on this side of the Atlantic, at least, is comparable for instantaneous and irresistible effectiveness. Those confronting arcades alone, embracing each three stories, gain immensely by the similarity of treatment and lose nothing by the diversity of detail, one in Gothic and one in classic. It looks lucky that the same architect had the doing of both, since a succeeding architect of the newer would have been in danger of finding his originality compromised by conformity, which in this case is to say by doing the obviously right thing. The two huge white sheets of front seem fittingly, or as fittingly as any skyscrapers could do it, and even tenderly to frame poor dear

FIG. 1.—THE NEW TRIBUNE BUILDING.
R. M. Hunt, Architect. Newspaper Row, New York. D'Oench & Yost, Architects.
(Photo by A. Patzig.)

old Trinity, not so long ago the "landmark of New York" from the Jersey Hills from which it has long been invisible, to frame it as a relic, or rather as a reliquary, a casket, it seems to say containing precious things, or it would not have been left there with its ample setting of greensward, when its site might have been sold for so many hundreds of pence and given to the rich. And the effect of framing and protecting the relic is enhanced by the latest comer, the United States Express Company's new building at the rear of the churchyard, shortly, no doubt, to be adjoined by another of the same kind, thus completely enclosing on the three sides the open space which enables the construction of the surrounding monsters. The spectacle is an incitement to criticism other than architectural. For, observe that Trinity itself has no part nor lot in the huge profits that its maintenance of the great light-wells of Trinity churchyard and St. Paul's churchyard is making and will make for the riparian owners. *Sic vos non vobis*, the remarkable layman who has charge of the "temporalities" of Trinity may well observe as he remarks the great gains the corporation has renounced in favor of extraneous persons. Verily, "the children of this world are in their generation wiser than the children of light."

But to return to architecture. The new building gains by comparison with its elder neighbor in that its frontage made a symmetrical disposition practicable, and a central crowning feature. But both gain by the conjunction. The turret of the Trinity building looks better as an intermediate than as a terminal feature, though it seems that it would have been well to avoid the competition with it of the tall canopied opening which is the culmination of the later work and which repeats on a larger scale the like feature in the earlier. In fact, on either scale, this feature cannot be said to be its own excuse for being. In neither case does one "see the necessity," and to say that of a conspicuous feature in so grimly a utilitarian building as the skyscraper is is to go near to condemning it. And this stricture applies with still more force to the treatment of the middle part, the "shaft" of the side walls. Not to the north wall of the Realty or even of the Trinity, for neither can really be seen, but to the south wall of the Trinity Building, as to the north wall of the Empire Building, and to the flanking walls of the Manhattan. In each case, it seems to me, Mr. Kimball has taken a mistaken view in undertaking to variegate and diversify the blank monotony of his wall surface, punctured only with "damnable iteration" as he seems to think it of precisely similar openings, and undertaking it to the end that "his uncomely parts have more abundant comeliness." This is particularly, and to me painfully, evident in the south wall of the Trinity Building, more than in the north wall of the Empire, which is equally in full evidence, and in which also it seems a blemish. One can imagine the variegations of the middle wall of Trinity with their Gothic detail, significant and effective, say, in a college building, as distinguishing the staircases from the dormitories. But one cannot imagine any functional differences in the flank of a huge office building, any more than in the cells of a honeycomb. The openings all serve similar purposes, and one cannot make this kind of distinction among them without conveying the sense that it is a factitious and capricious distinction. *Comme il faut*, "as it must be," is the very best impression the architect of a skyscraper can produce with his work. And surely nobody could pretend that these variations make upon him the impression of inevitability. And, moreover, purely as a matter of visual effect preceding any analytic consideration, the mere uniformity and succession, tier after tier, of openings in themselves, or each by itself, insignificant, gains by mere repetition, conveys an effect of extent and expanse which these interruptions and differences tend to confuse and disturb. Note, in contrast, the effect of the arcade at the base in any one of the three buildings. Note it particularly in the north wall of the newest building, though that wall is always in the dark, or at least in a dusk which is scarcely to be regretted since it adds mystery to the indefinite repetition

FIG. 2.—TRINITY ANNEX AND U. S. REALTY BUILDINGS.
Broadway and Cedar St., New York. Francis H. Kimball, Architect.
(Photo by A. Patzig.)

of the same form from end to end. That long arcade of segment-headed openings is bound to make its effect upon any sensitive observer. It is one of the most impressive things not only in the architecture of the skyscraper, but in any architecture one can see. It is the same effect that has been sought and attained by the builders of every building nation from Egypt downward, the simplest and most obvious, but also the surest, and it here testifies anew to the unfailing power in architecture of "uniformity and succession." Upon this, and upon the gorgeous Gothic corridor which corresponds to it in the interior, and in which the architect has succeeded in producing a wonderfully effective piece of architecture without sacrifice or denial of his practical conditions, he is to be congratulated most heartily and without any reserve.

As to the background of the churchyard, or so much of it as is furnished by the new building of the United States Express Company, there is very little to be said. It is so distinctly and exclusively "the regular thing," so palpably, architecturally speaking, neither here nor there. The bottom story, if not more than one, is hidden from view by the elevated railroad. But that concealment was of course allowed for in the design, and one cannot persuade himself that, if it had not been, it would matter. That the architect is a "practical man" serving his client to the best of his ability, and sacrificing no inch of room anywhere to architectural effect, but employing every means of utilizing to the utmost the area and the altitude, all this is not only evident but emphasized. Such a description sounds satirical, but it is not satirically meant. In fact, it is doubtful whether except as the manual of bridge engineering says, "in cases where appearance is imposed as a necessary condition," the designer of skyscrapers could do anything better. Certainly a sacrifice of any practical requirement to "appearance" is not only "bad business," but bad faith and bad architecture. If this building stood where its base was visible, the fettered architect, if he happened to be an artist, might relieve his feelings with a "swagger" entrance, and a piece of sculpture emblematizing the express business. That is, he might do so if he had clearly explained his purpose to his customer, and his customer had consented, as in this case he doubtless would have consented, to "stand for" the irrelevant piece of fantasy, and charge the cost of it to the advertising account. But it would be as inartistic as it would be unpractical for the architect of this structure to advise his client to waste his money or an invisible and virtually subterranean piece of architectural pyrotechny. With the exception of the string courses of the lower stories, about which also there is an architectural neither-here-nor-there-ness, one cannot accuse him, up to the nineteenth, or as it may be, the twentieth story, of diverting a single dollar from business to architecture. Above that point, indeed, "a decent respect to the opinions of mankind" has constrained him to follow the fashion and the convention, to set off the upper three stories by themselves by a strong demarkation from what is below, to include them under arches, and to crown the edifice with a crested cornice. This is, in fact, "the thing itself." How much of a denial it really was, the United Express Company gives no real sign. If he be in fact an artist one's sympathies must go out to him. If he be only, as an eminent practitioner of architecture puts it, "a business man with a knowledge of building," he has suffered no pangs, and will be content with the praise which nobody can deny him of having done his work in a workmanlike manner.

We were saying that this is "the thing itself," that "unaccommodated" skyscraper, as Shakespeare has it of man, is even as this is. But, if one really thinks that this is the skyscraper reduced to its simplest expression, good gracious, let him look at No. 1 Wall Street. Here, if you like, is "the thing itself." The steel frame here is merely covered with the fire resisting brick it practically needs (very good brick it is, by the way, and a credit to the architect's selection). Not only is there no pretence of a masonry construction in any pretended or apparent adequacy of the visible supports to

FIG. 3.—THE UNITED STATES EXPRESS COMPANY'S BUILDING, SHOWING ALSO THE WEST ST. BUILDING IN THE BACKGROUND TO THE RIGHT.

Rector St. and Trinity Place, New York. Clinton & Russell, Architects.

(Photo by A. Patzig.)

carry the visible superstructure. Such a pretence is openly scouted. It is made manifest, so to say, and impressed upon you, that the building is not what it seems, and that if it were what it seems, it could not stand up five minutes, that it would come down by the run, beginning with that rood of plate glass framed with a six-inch copper moulding, that pretends, or rather does not pretend, to carry eighteen stories of brick work. No humbug of "triple division," of composition, vertical or lateral, in short of architecture, about this man. He has put up a trellis of steel frame and just bricked it over, excepting the square holes he had to leave to light the interior. Truly, this is the simplest expression, if you can bring yourself to call it an expression. For seventeen stories there is not a single sign that the designer ever gave a thought to what his work was going to look like. That his intermediate piers were wider than his terminal piers, that his windows were mere square holes cut in the wall, none of these things moved him. But then what a change of heart. Why that shelf above the seventeenth story? That shelf cost money. Why that elaborated and crested frieze? That cost money, too, even though not much, and even though it be, if it be, but of humble sheet metal. And why, oh, why, those amazing obeliscal wreathed pinnacles, making the tower "like a table with all four legs in the air," as Ruskin hath it? It is in vain for him to deny it. That is architecture. At least it is "artchitecture."

To be sure, some man may say about the Royal Insurance Building what we were just saying about the United States Express Company's Building, that it is the regular thing, the most regular of regular things. But it does not follow that some man would have reason. Here, no doubt, is the convention of the skyscraper recognized, recognized and even emphasized in the difference of material, the brickwork of the nine-story shaft marking its difference from the sandstone of the four-story base and of the three-story capital. Moreover, the building has to endure the very difficult confrontation of the John Wolfe Building on the opposite corner, that remarkable "habitation enforced," in which Mr. Hardenbergh was really driven into a bold picturesqueness as the alternative to an uncouth unsightliness, and in which he acquitted himself so well. This present "Royal" is as strictly utilitarian an edifice as the United States Express Company's building. Nobody can fairly accuse the architect of having blinked his problem or humbugged his client. But he had his advantages, his advantages over the designer of the other. He had for instance, the advantage of showing his building to the bottom, and of exhibiting such special purpose as it derives from its name and proprietorship, in the bit of emblematic sculpture at the entrance. This is not here, as it might have been in the other case, the contest of the Centaurs and the Lapithae, the Plattites and the Odellites. It resolves itself into the ancient and even matranserine legend of

The Lion and the Unicorn
A fighting for the Crown.

But the heraldic "supporters" of the British Royalty of which the doggerel gives a childish view, do in fact, like most heraldic devices, lend themselves to decorative uses. In the present instance they do relieve what would otherwise be what the irreverent might call the equally childish doggerel of the alternation of metopes and triglyphs below. By design, scale and situation, they do supply a "feature" to the entrance, and do tend to relieve the necessary prosaism of the superstructure. The fact that the superstructure is evidently and avowedly, as evidently and avowedly as in the Express Company's building, "a cold business proposition," does not interfere with the little touch of interest added by this, nor does this interfere with that. Nobody is going to get any artistic thrill in particular out of this "Royal" building. But, on the other hand, nobody is going to dispute that its author has "connaissance des choses," and shows himself aware of the condition under which he is working. The building, upon the whole, is a quite impeccable example of the current fashion in tall buildings, if it be nothing more. And, truly, it is rather more.

FIG. 4.—NO. 1 WALL STREET, NEW YORK.
Broadway and Wall St., New York. Barnett, Haynes & Barnett, Architects.
(Photo by A. Patzig.)

There has evidently given some consideration to the proportions, to the choice and apportionment of material, to the scale and the design of the detail. It

FIG. 5.—THE NEW QUARTERS OF THE ROYAL INSURANCE COMPANY.
William St. and Maiden Lane, New York.
Howells & Stokes, Architects.
(Photo by A. Patzig.)

may be, as Baillie Jarvie said about Rob Roy, "ower bad for blessing," but it is surely "ower gude for banning."

No. By the same architects is offered solution of a very different problem. The problem here is not to give respectability, and if possible, distinction, to the common skyscraper, intended to meet the commonest, not to say vulgarest, of human needs, the need of making a living, the only possible purpose for which any human creature would hire quarters in the Royal, or in any other skyscraper. The problem is now to signalize an "institution," as distinguished from a beehive. And it is to distinguish the institution above the flanking beehives which have the advantage of it in actual altitude, and, in the language of Artemus Ward, one of whom it is also which. For it stands to reason that there is a good deal of rentability behind the frontage of the Title Guarantee and Trust Company. All the same, its flankers do overtop it, and something had evidently to be done to enable its eight stories to hold their own against their loftier neighbors. Obviously this something had to be done by "scale." And almost equally obvious, given the necessity of scale, was the expedient of the "colossal order" including five stories of the building itself, and equalling five of the flanking buildings. If that, in fact, was the purpose, it has been attained. The institution would not be killed by the beehives if half a dozen more stories were added to each of them. And, although the "institution" by no means expresses and expounds the skeleton construction, and might, perhaps, be quite as it is in appearance if it were a building of masonry, yet it does not deny the construction as many buildings do which are far more representative of the skyscraper. Let us congratulate the architect on a client who "stood astonished at his own moderation" in stopping at eight stories. But let us also congratulate the client upon his architect.

And here is the new Stock Exchange, which has been so much written about that one would not think of writing about it again if the photograph did not happen to be included in one's "list" and to lie before one. But it is of interest in connection with Fig. 7 as exemplifying the same problem, likely hereafter to present itself more frequently than hereto-

fore, the problem of giving dignity to a building which by the conditions cannot compete with its neighbors in altitude. The resource which Mr. Post availed himself of so long ago in the Produce Exchange was to surpass his neighbors in altitude, as well as in other dimensions of magnitude, by adding several stories of rentable offices to the institution he was housing. The effort was not wholly successful even then, when of the two factors of the tall building, only the first, the passenger elevator, had come in, and the second, the steel frame, had not been developed. Even in the Produce Exchange there is a confusion as to what is monument and what is "business," and even whether the big hall or the little office is "the pig that pays the rint," a confusion much to the architectural disadvantage of the edifice. But now that the second factor is operative, the insti-

FIG. 6.—DETAIL OF ROYAL INSURANCE BUILDING.
William St. and Maiden Lane, New York. Howells & Stokes, Architects.
(Photo by A. Patzig.)

FIG. 7.—TITLE GUARANTEE & TRUST COMPANY.
176 Broadway, New York. Howells & Stokes, Architects.
(Photo by A. Patzig.)

FIG. 8.—LOOKING SOUTH ON BROAD ST. FROM WALL, SHOWING THE STOCK EXCHANGE, COMMERCIAL CABLE AND BLAIR BUILDINGS.

The Financial District, New York.

(Photo by A. Patzig.)

tutional building is evidently taken out of the competition, since one cannot "build to the limit" without hopelessly

FIG. 9.—THE SELIGMAN BUILDING.
William and South William Sts., New York.
Francis H. Kimball, Julian C. Levi, } Associated Architects.
(Photo by A. Patzig.)

submerging the institution. Between that rowdy Cable building, which I remember once seeing described in these pages as having the air of having a cigar in its mouth, and the less aggressive, in fact the rather platitudinous, but distinctly altitudinous edifice on the north, a very emphatic horizontal extension was needed to enable the "institution" to hold its own, especially since it had been wisely determined that the institution should be the only occupant of its own premises. It must outscale the buildings which overtopped it. Here, too, the obvious and natural means of giving scale was the employment of the colossal order, the order in this case including four of the stories alongside, and, as in the other, really constituting the structure of the building and not a mere applied ornamentation. With this colonnade, and with the sculpture of the pediment, which unfortunately does evidently constitute a mere applied ornament, there is no danger that the Stock Exchange will not continue to hold its own, whatever may come to adjoin or to confront it.

The Seligman Building, corner William and South William streets, is a rather frightful example of the unwisdom of trying to variegate and diversify the accepted type of skyscraper, especially by an architect whose work indicates that his forte lies much rather in conformity than in innovation. Indeed, he could not quite have done the "regular thing" in any case, since the regular thing involves either a parallelopiped or, architecturally, a mere flat front, and he had a site apparently with an "acute" angle, though this one is blunt, so blunt that it may possibly be a right angle. If so, he is to be congratulated so far upon rounding the arris, and giving himself a "feature." Unfortunately, he has done nothing with his feature. Up to the eighth story, to the top of the shaft, the treatment of the walls is of distinct neither-here-nor-there-ness, excepting this rounded angle, which it seems that a sensitive designer would have made as solid as possible. Perhaps he could not diminish the size of his openings. But one cannot easily forgive him for having increased that at the bottom, where, precisely, the eye requires the greatest sense of solidity, and where is, in fact, the largest opening on the ground level, the prin-

cipal entrance alone excepted. And what strange vagaries he wanders into when he comes to the top. From the ground up to the eighth story the form and treatment prefigure a turret, or at least a pinnacle. One can imagine a highly effective crowning feature of that kind. But what sort of preparation is it for a lantern or a pinnacle actually to withdraw the wall below it, for two stories, into a reëntrant angle, truncated at that, so as to provide a visible want of support for his solid turret above? This is mere mindless caprice, mere amentia, "Amentia Americana," too, one is sorry to have to own. It is the rural carpenter's notion of "something fancy" done in durable and costly stone.

FIG. 10.—DETAIL OF SELIGMAN BUILDING.
William and South William Sts., New York. Francis H. Kimball, Julian C. Levi, Associated Architects.
(Photo by A. Patzig.)

Truly, it seems that superfluities and arbitrarinesses are more explicitly excluded from the skyscraper than from almost any other kind of building. To be sure the caprice we have been noticing is so capricious that one is entitled to call it silly, and is, besides, very ill done. But in cases in which it would be unjust to apply so harsh a criticism as that, cases in which artistic architects are concerned, whom one would not and could not treat otherwise than respectfully, some of the cases, in fact, which we have already passed in review, does it not seem that in the architecture of the skyscraper, as Martin Van Buren said about politics, "whatever is entirely superfluous ought to be avoided?" Does not the skyscrap-

er gain by the closeness of its adherence to logic, and suffer by every departure from the same? Like good engineering, is it not at its best when it is a "graphical demonstration," an "art of science," as Paul Bourget said about the tall buildings of Chicago? So it seems. So it

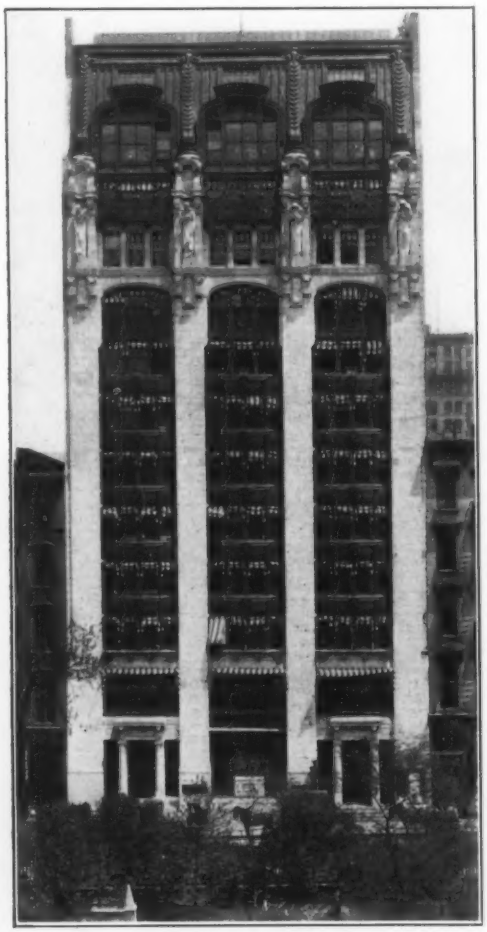


FIG. 11.—THE EVENING POST.
Vesey St., New York.
Robert D. Kohn, Architect.
(Photo by A. Patzig.)

particularly seems when we come upon a building designed upon these principles, always and primarily given, of course, that it was designed by an artist. Such, eminently, is the new building of the Evening Post, architecturally a mere flat front, but with the great advantage of fronting, not a mere street, still less a mere canyon, but the broad greensward of St. Paul's churchyard, which the renouncing corporation of Trinity has gratuitously put at the service of the exploiters of Mammon. This, one may fairly say, is "the thing itself," the "skeleton," hardly draped, but articulated, developed and decorated in accordance with the facts of the case. There is no mistaking what it is or how it is put together. Instead of being concealed and confused, the essential structure is so emphasized that the spectator understands it better than he would have understood the mere steel frame before the architectural treatment of it was begun. The differentiations are not fantastic, but, at least in appearance, functional. One supposes, for instance, that the uppermost story, with its great openings, belongs to the composing room, and that the whole "capital" denotes the abode of the newspaper which is so eminently an "institution," while the architectural base is confined to the single story which alone is really differentiated from the office building that occupies the "shaft." Of course all this might be as logical and yet be ugly, instead of being as it is, highly artistic and effective, by reason of the skill of the architect in his emphasis and his subordinations, in the successful study he has given to the design and to the placing of his detail, in the artistry of his sparing decoration. But can one imagine an equal architectural success attained by the process of slurring or suppressing the facts instead of bringing them out, by the introduction of features and variations unfounded in fact, as by this strictly "realistic" treatment of the thing he had to do. However that may be, it will not be disputed that the new building of the Evening Post is one of the best things in our recent street architecture, one of the most exemplary and interesting of the skyscrapers.

Montgomery Schuyler.

A New Type of City House

The house is on the north side of Fortieth Street, one hundred and fifty feet east of Park Avenue. The lot is 29 ft. wide and 98 ft. 9 in. deep. The exterior is of red brick and white marble, the latter used very sparingly. See Fig. 1. The desire was to make the exterior indicative of modest comfort and good cheer. The windows were made large so as to admit an abundance of light and sun, and the white marble was used to enliven the otherwise sombre monotony of the brickwork.

The arrangement of the shutters is unusual, as may be seen in Fig. 2. The window openings are five feet wide, and the shutters are made in six leaves, three on a side, which fold together and are entirely received in pockets in the brickwork of the jambs. When opened out the shutters lie in a plane four inches from the face of the wall; they have fixed slats in the upper division of the four central panels. As there is quite a space between the shutters when closed and the window frame, the transoms of the windows, which are hinged at the top and swing out, can be opened when the shutters are closed and air admitted without much light.

The most unusual feature of the house is its entrance and garage. In this respect it is probably the first one of a class which will multiply greatly in the future, for it affords a practical demonstration of the possibility of combining with the ordinary city house a garage, the need for which is daily becoming more urgently felt.

Fig. 2 shows the wrought iron entrance gates to the porte cochère. The garage is on a lower level than the street, and a large lift, operated by an electric motor, is used for raising and lowering automobiles. Fig. 3 is a view in the porte cochère showing the automobile on the lift; the entrance to the house from the porte cochère can be seen on the left (see Fig. 12, plan of ground floor). Fig. 21 is a view from the porte cochère looking into the stair hall through this entrance.

The garage is on the rear of the lot and is entirely separated from the house (see Fig. 11, plan of basement). The building regulations require that 10% of the area of the lot be left vacant, but there is nothing to hinder one building on that area below the level of the curb, and this is where the garage is placed. It was at first intended to confine the garage entirely to the vacant space on the lot occupied by the house, which would have answered very well for electric automobiles, but would not in this case have been large enough for gasoline cars. To provide space for two or even three cars the garage was extended across the end of the adjoining lot, providing a room 16 ft. wide by 36 ft. long. It is lighted by skylights.

Fig. 7 is a view in the garage looking east, and Fig. 8 is a view looking towards the automobile lift. The entrance from the street can be seen in the distance at the higher level. The fireproof door to the left is to the gasolene pump room. The gasolene tank is below the floor, and is covered with two feet of concrete. The filling pipe is similarly protected and leads to the curb. There is no connection between the house and the garage except through this passage leading to the porte cochère, which is cut off from the garage both by swinging fireproof doors, which can be seen in the photograph, and by the automatic fire door seen at the right of the picture. Thus protected, the insurance rate on the house is not affected by the garage. The house is fireproof throughout; as its construction complies with all the rules of the Fire Underwriters, the lowest rate applies to it.

One enters the stair hall from the porte cochère, as shown in Fig. 21. To the right, under an arch which carries the stairs, are a number of doors concealed in the paneling. One of these gives access to a watercloset; one to a short passage leading to the servants' hall, which is on this floor; and another to the automatic passenger elevator. (See Fig. 12, plan of ground floor.)

FIG. 1. RESIDENCE OF ERNEST FLAGG, ARCHITECT.

Under the stair landing is a place where ladies may leave their wraps; this is shown in Fig. 5. Fig. 4 is a view in the hall looking towards the reception room. The latter is entered from the first landing of the staircase; the floor being three steps above the level of the floor of the hall. The staircase is broad and easy; it is 5 ft. 6 ins. wide; the treads are 14 ins. deep, and the risers 5½ ins. high.

FIG. 2. RESIDENCE OF ERNEST FLAGG, ARCHITECT—DETAIL OF LOWER STORIES. 40th St., near Park Ave., New York.
(Photo by A. Patzig.)

The reception room measures 18 ft. x 19 ft. (see Fig. 12). As in the hall, the woodwork of this room is natural cherry,

waxed. The panels are filled with blue silk moire; the same material is used for the curtains and valances. Fig. 18 is a view from the entrance looking toward the street, and Fig. 24 is a view looking towards the entrance.

FIG. 3. RESIDENCE OF ERNEST FLAGG, ARCHITECT—PORTE-COCHERE, SHOWING AUTOMOBILE ON THE LIFT.
40th St., near Park Ave., New York.
(Photo by A. Patzig.)

Before going upstairs, let us take a look at the service portion of the house. We enter the servants' hall or dining-room from the stair hall through the passageway at the side of the passenger elevator. (See Fig. 12.) Fig. 9 is a view taken in this room looking north. Its dimensions are 15 ft. x 27 ft. The clock is a master clock connected electrically with all the clocks of the house, which are operated by it.

The kitchen is smaller than is usual.

FIG. 4. RESIDENCE OF ERNEST FLAGG, ARCHITECT—THE HALL, LOOKING INTO THE RECEPTION ROOM.
40th St., near Park Ave., New York.
(Photo by A. Patzig.)

FIG. 5. RESIDENCE OF ERNEST FLAGG, ARCHITECT—LADIES' WRAP ROOM UNDER GROUND FLOOR STAIR LANDING.
40th St., near Park Ave., New York.
(Photo by A. Patzig.)

the house being planned on the theory that the kitchen should not be used as a sitting room for servants. It measures 10 ft. 3 ins. x 27 ft. It has been found large enough for its legitimate uses. It is lined from floor to ceiling with white tile, and is lighted by windows on its east side. Adjoining the kitchen, but not opening directly from it, is the larder. (See Fig. 12.) The servants' watercloset on this floor is entered from the yard. One flight of stairs at the southerly end of the servants' hall leads to the basement; another starting from the passage by which we entered connects with the servants' staircase to the top of the building, and another at the northerly end of the kitchen leads to the pantry and to the butler's room over the pantry.

FIG. 6. RESIDENCE OF ERNEST FLAGG, ARCHITECT—GROUND FLOOR HALL, LOOKING INTO THE LIVING ROOM.
40th St., near Park Ave., New York.
(Photo by A. Patzig.)

If we descend the stairs to the basement we find ourselves in the machine room. (See Fig. 11.) Here are located the passenger elevator machinery, the

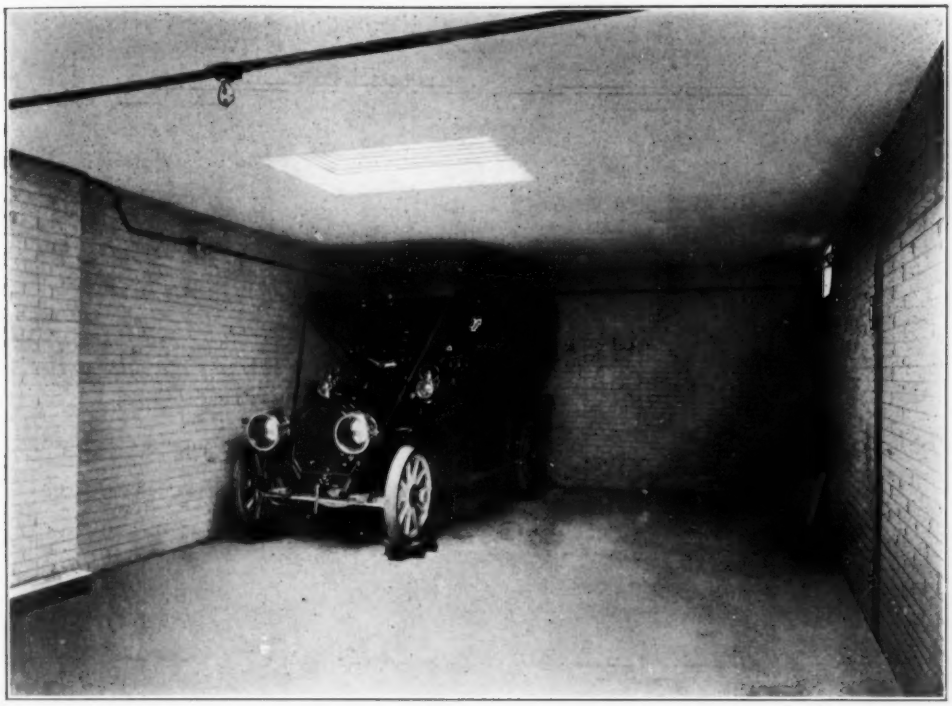


FIG. 7. VIEW IN THE GARAGE, LOOKING EAST.

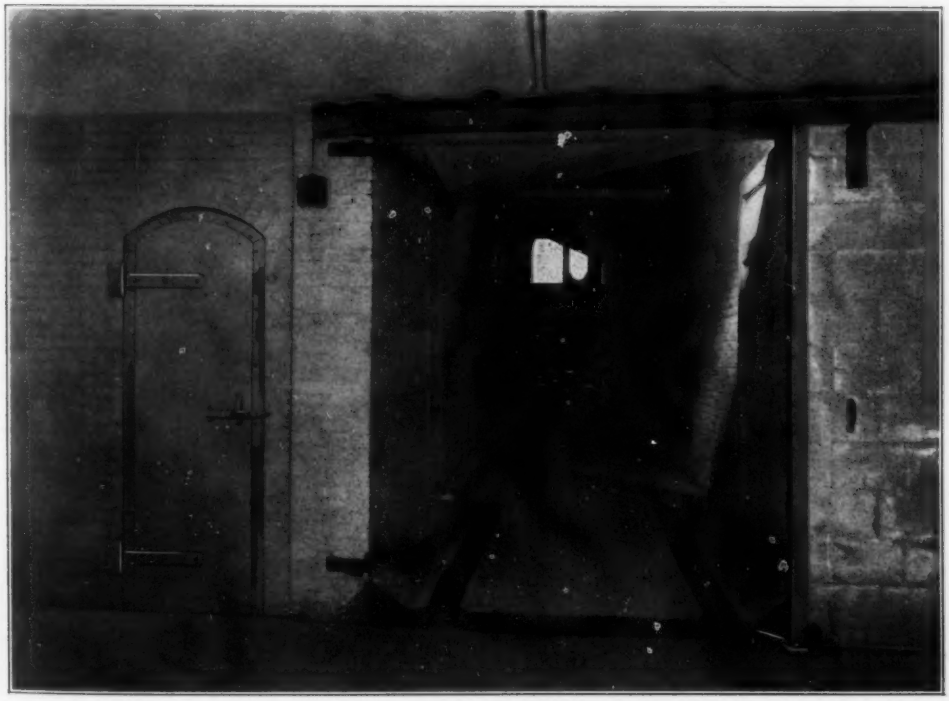


FIG. 8. RESIDENCE OF ERNEST FLAGG, ARCHITECT—VIEW IN GARAGE, LOOKING TOWARD AUTOMOBILE LIFT.
40th St., near Park Ave., New York.
(Photos by A. Patzig.)

FIG. 9. SERVANTS' DINING ROOM.

FIG. 10. RESIDENCE OF ERNEST FLAGG, ARCHITECT—PANTRY.
40th St., near Park Ave., New York.
(Photos by A. Patzig.)

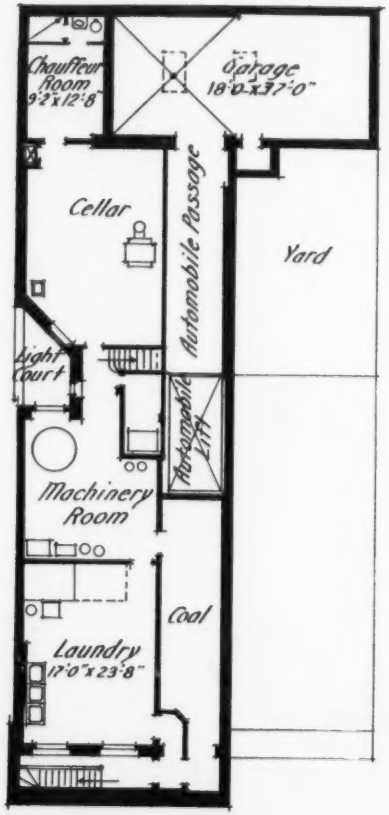


Fig. 11. Basement Plan.
40th St., near Park Ave., New York.

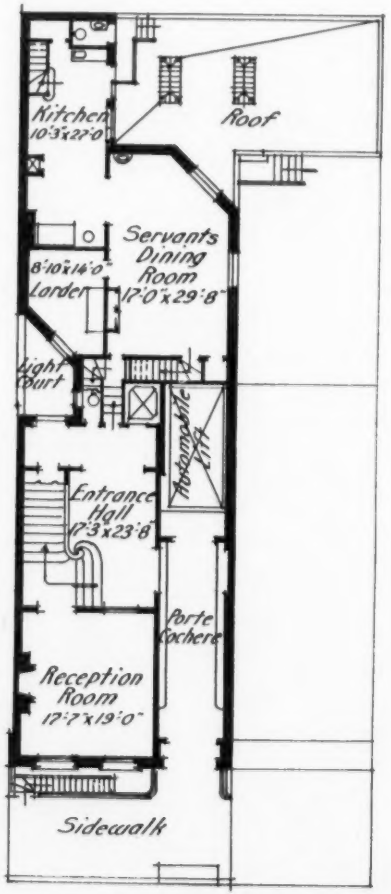


Fig. 12. Ground Floor Plan.
RESIDENCE OF ERNEST FLAGG, ARCHITECT.

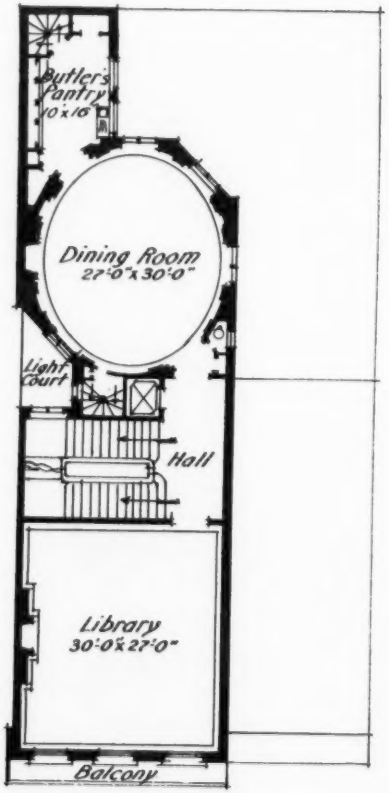


Fig. 13. First Floor Plan.

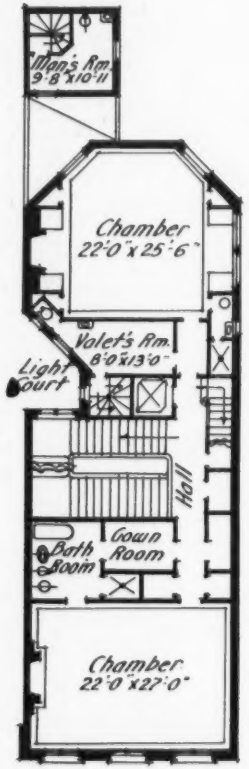


Fig. 14. Second Floor Plan.

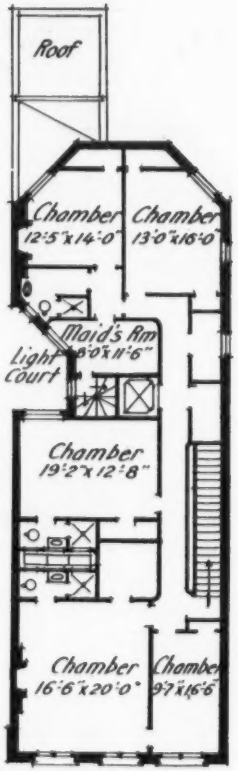


Fig. 15. Third Floor Plan.

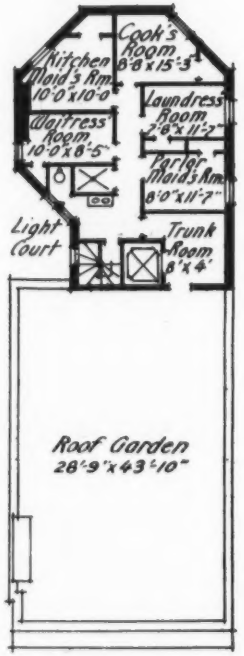


Fig. 16. Fourth Floor Plan.

RESIDENCE OF ERNEST FLAGG, ARCHITECT.

40th St., near Park Ave., New York.

FIG. 17. RESIDENCE OF ERNEST FLAGG, ARCHITECT—THE DINING ROOM.
40th St., near Park Ave., New York. (Photo by A. Patzig.)

FIG. 18. RESIDENCE OF ERNEST FLAGG, ARCHITECT—THE RECEPTION ROOM, LOOKING TOWARD THE STREET.
40th St., near Park Ave., New York.

FIG. 19. RESIDENCE OF ERNEST FLAGG, ARCHITECT—DETAIL OF MANTEL IN DINING ROOM.

(Photos by A. Patzig.)

FIG. 20. RESIDENCE OF ERNEST FLAGG, ARCHITECT—DETAIL OF LIVING-ROOM MANTEL.
40th St., near Park Ave., New York.

FIG. 21. RESIDENCE OF ERNEST FLAGG, ARCHITECT—VIEW INTO STAIR HALL THROUGH MAIN ENTRANCE.

(Photos by A. Patzig.)

FIG. 22. RESIDENCE OF ERNEST FLAGG, ARCHITECT—VIEW IN THE LIVING ROOM, LOOKING NORTH.

FIG. 23. RESIDENCE OF ERNEST FLAGG, ARCHITECT—CHAMBER ON SECOND FLOOR. 40th St., near Park Ave., New York.

(Photo by A. Patzig.)

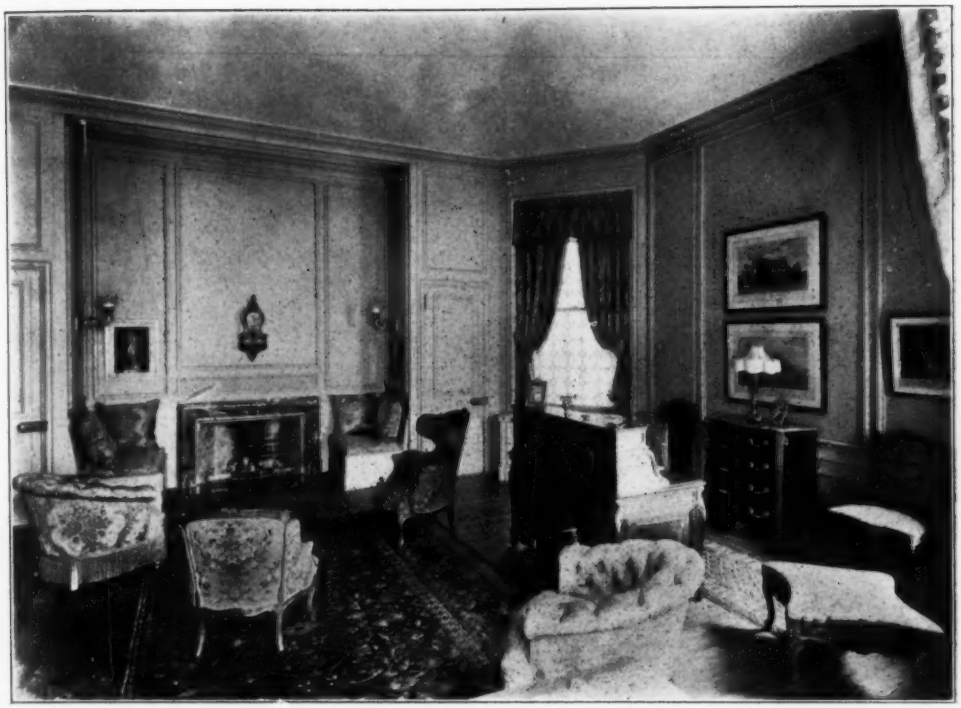


FIG. 24. THE RECEPTION ROOM, LOOKING TOWARD THE ENTRANCE.

FIG. 25. RESIDENCE OF ERNEST FLAGG, ARCHITECT—CHAMBER ON SECOND FLOOR. 40th St., near Park Ave., New York.

(Photos by A. Patzig.)

vacuum sweeping plant, the filters, the house pump, the thermostatic regulating pump and one of the heaters. The heating arrangement is somewhat peculiar. There are two distinct systems, each calculated to supply half enough heat for the coldest weather. One is a hot water system whose pipes go to all the rooms, bathrooms and corridors, and the other is a hot air system, with ducts to the principal rooms and to the halls and corridors. In mild weather the hot air furnace is used alone. In more severe weather, the hot water system is used alone. In very cold weather both are used. During the past winter it was found necessary to use both systems only on four or five days. The coal consumption was remarkably little for a house of this size. Another peculiarity of the house is its automatic ventilation by means of waste heat. Instead of surrounding each smoke flue with brick as is usually done, the flues were arranged in groups of three, separated from each other by iron plates. The central flue in each group is one which is constantly heated, such as that for the kitchen range and laundry stove, or the furnaces. The outside flues in each group of three serve for the open fireplaces in the various rooms. As the fireplace flues are thus kept heated by the heat from the central flue radiated through the iron plates they work automatically all the time, and each open fireplace becomes a ventilator with a constant up-draught whether there is a fire in it or not.

FIG. 26. RESIDENCE OF ERNEST FLAGG, ARCHITECT— CHAMBER ON SECOND FLOOR. 40th St., near Park Ave., New York.
(Photo by A. Patzig.)

But let us return to the machinery room in the basement. The smoke pipe of the hot air furnace in this room goes up through the ceiling into a space under the main staircase on the floor above, through which it is carried horizontally to its flue. The heat which it radiates is

used for warming the main stair hall. It is surprising how much heat that is usually wasted is saved by this contrivance.

To the north of the machinery room is the cellar, containing the heater of the hot water heating plant. The smoke pipe from this heater is also carried through the ceiling into a drum in the servants' hall, seen in Fig. 9. Thus part of the heat which is usually wasted serves to heat that room, and the rest passes on to operate its share of the ventilating system. The chauffeur's room on this floor adjoins the garage, although not connected with it. It is lighted by windows over the top of the garage. It has its own shower bath and toilet room. The front basement room south of the machinery room is the laundry. The floor, like those of the kitchen, store-

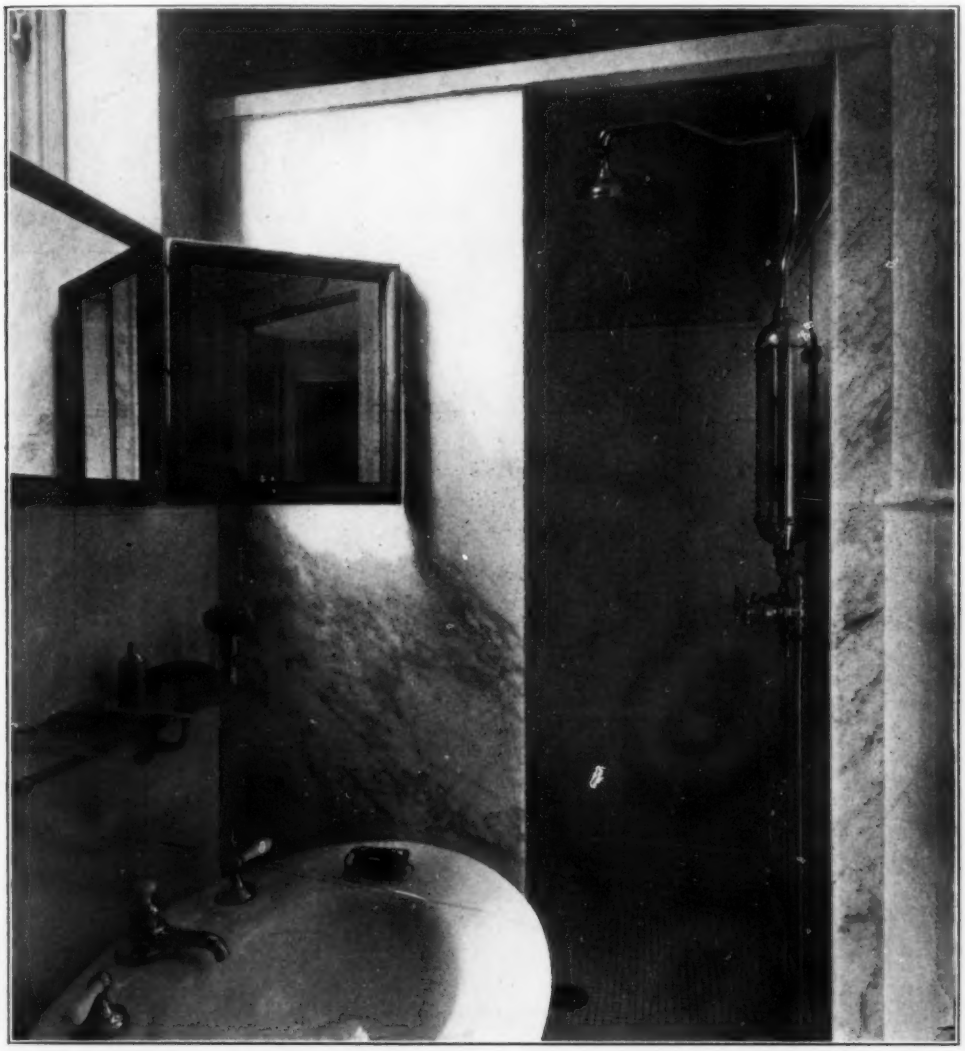


FIG. 27. RESIDENCE OF ERNEST FLAGG, ARCHITECT—BATH ROOM, SHOWING RAIN BATH. 40th St., near Park Ave., New York.

room, servants' hall and butler's pantry, was put down in a plastic state, has no cracks and is coved to meet the plaster of the walls, thus eliminating sharp corners and all places where vermin could lodge. The coal storage space is under the porte cochère.

Now let us return to the main hall on the ground floor and ascend the stairs or take the elevator to the first floor landing. Fig. 6 is a view from here looking into the living room. The floor of this landing has a stone border; the panels are filled with red plastic flooring. Like the hall below, the walls are of Caen stone. The entrance to the living room is to the right as one reaches the landing. This room measures 27 ft. x 30 ft.; the ceiling is 15 ft. high in the clear. The woodwork is of natural cherry, waxed, and the wall panels of yellow silk damask, which is also used for the curtains and valances. Fig. 22 is a view looking north, and Fig. 20 a detail of the mantel. The two narrow panels on the east and west sides are filled with embossed japonise paper.

The dining-room, which is entered from the other side of the landing, has the same extreme dimensions as the living room, being 30 ft. long and 27 ft. wide. Its plan is a true ellipse. (See Fig. 13, plan of first floor.) Fig. 17 is a view looking northwest from the entrance. Fig. 19 is a detail of the fireplace. The woodwork, like all that heretofore mentioned, is of natural cherry, waxed, and is very pleasing in tone. The pilasters and mantelpiece are of a black marble with white streaks, called noire veine. The capitals of the pilasters and the festoon above the mirror are of a dull gold bronze, and the wall panels are filled with japonise embossed paper of the same color. The curtains are silk, of a general reddish tone. The floor is peculiar and probably the first one of its kind. The diagonal strips dividing the surface into panels are of oak and the panels are filled with red composition flooring, which, like the wood, takes a high polish with wax. It makes a very handsome floor. Fig. 10 is a view of the pantry.

Let us now go to the second floor. As will be seen by the plan, there are but two main rooms on this floor. The front room has three windows on the street; its dimensions are 22 ft. x 27 ft., and the height of the ceiling is 12 ft. in the clear. Here again we have cherry wood left in its natural color, with no other treatment than a coat of wax. The wall panels are of pink silk moire, and the curtains of the same material. The fireplace is of pink Numidian marble. Fig. 26 is a view looking west, and Fig. 25 is a view looking east.

The other chamber on this floor, which is illustrated in Fig. 23, measures 26 ft. in extreme width, and 25 ft. in extreme length. The walls and woodwork are covered with French gray enamel. The hangings and furniture coverings are of old rose damask.

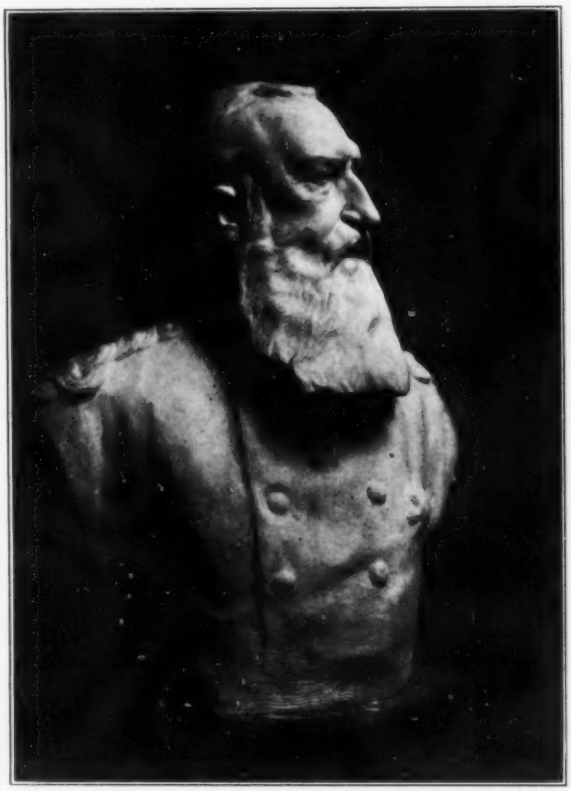
On the third floor there is nothing worthy of special note, unless it be the arrangement of the bathrooms, which is somewhat unusual. (See Fig. 15, plan.) Throughout the house, except in one case, rain baths have been used instead of tubs. They are much more satisfactory than tubs when one has once become accustomed to them, and they permit of a more economical arrangement of space, as can be seen in the two southern bathrooms on this floor. Fig. 27 shows one of these shower or rain baths.

A fourth story extends only over the rear portion of the house; it contains five rooms for female servants, with the necessary toilet accommodations and a rain bath. (See Fig. 16). Over the front portion of the house at this level is the roof garden, a very desirable feature, especially where there are children. It is of easy access by means of the elevator, which runs to this floor.

The hardware throughout the house, including the servants' quarters, is French, and has been found most satisfactory, being artistic in appearance, perfect in workmanship, and no more expensive for the cheaper grades than our own imperfect ugly productions.

The Master-Builder of Brabant

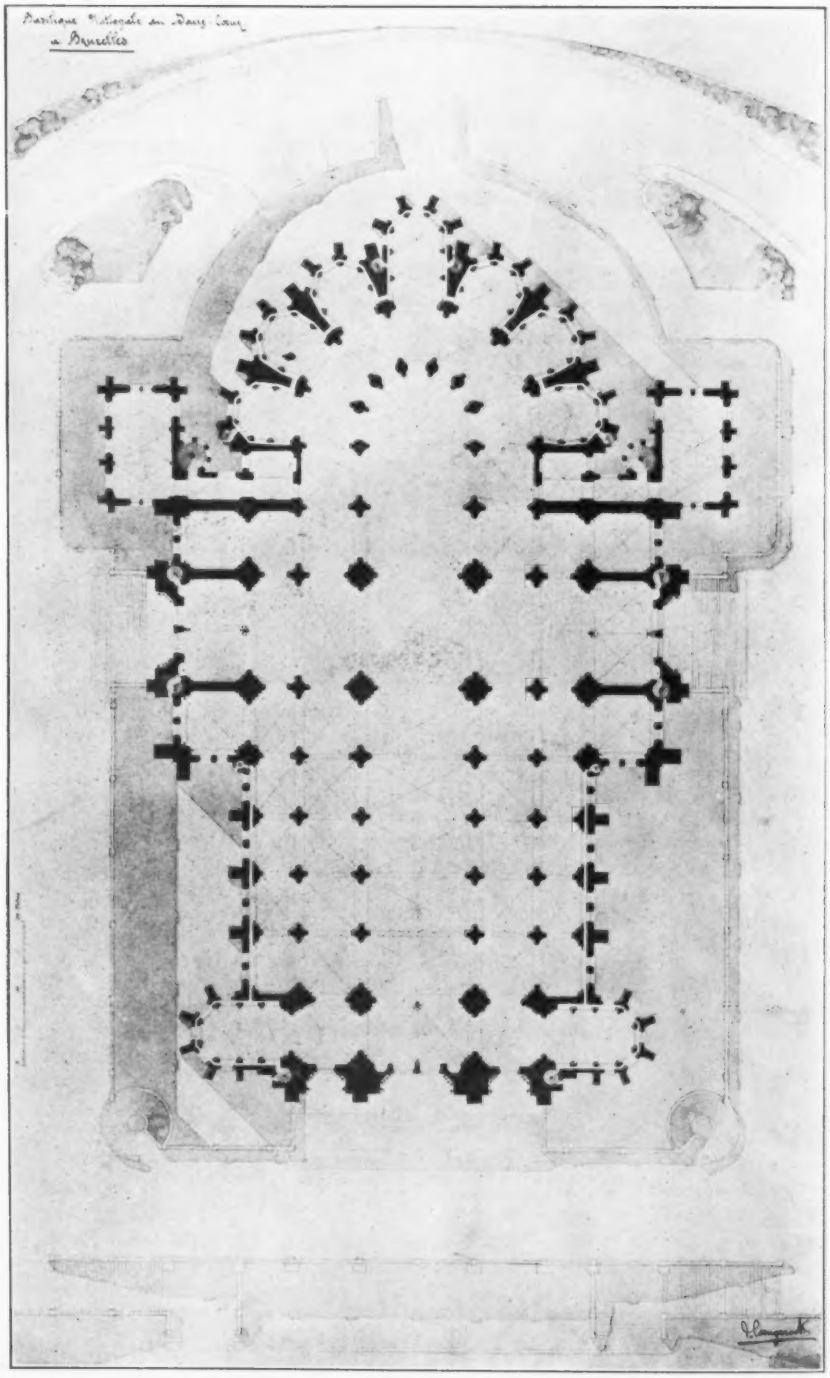
In the Parc du Cinquantenaire, in Brussels, on the right as you enter it from the Rue de la Loi, there is a group in bronze which bears the somewhat florid title of "The Builders of Cities." It represents two workingmen in extreme attitudes of fatigue; one of them in a sitting posture with his weight thrown heavily forward from his hips, and partly supported by his arms under bulging shoulder blades, and the other stretched beside him in the sleep of exhaustion.



LEOPOLD II., KING OF THE BELGIANS.

An authority in matters of craftsmanship might note in the group the influence of Constantin Meunier and see a straining after those effects of bodily power molded to special forms of labor which the great student of the Belgian proletariat knew so well how to describe; but an observer less engrossed in matters of technique would probably feel at once the inappropriateness of the title. He would wonder why the lowliest among all the laborers who form that clan, "The Builders of Cities," should have been chosen to represent it. And he would seek in vain in the rugged mass for a symbol whereby to conjure before him draughtsmen with tee-square and compass, engineer with slide-rule and tables, the decorator sketching in the choir of the Cathedral at Amiens, in Farrara, in some old country-house of England and architects sitting in committee resolving dreams into realities.

But did such a symbol indeed exist to give a fillip to the imagination of the loiterer, he would see, dominant above all the builders who have beautified Brussels in recent years, the figure of King Léopold II. Of the great builders of modern times one figure only, that of King Ludwig II., of tragic memory, challenges comparison with the Brabant monarch. But Ludwig's creative genius was cultural, not to say stereotyped. King Léopold's is eminently catholic. The drowned swimmer of the Starnberg Lake has left as a legacy to his people his houses of dreams. King Léopold will leave behind him more than palaces. These are important and often admirable, and yet it is not through them that he has won his way into the hearts of his subjects. Walloons and Flemings have come to know King Léopold as a builder, desirous, above all, of satisfying their architectural needs, of anticipating



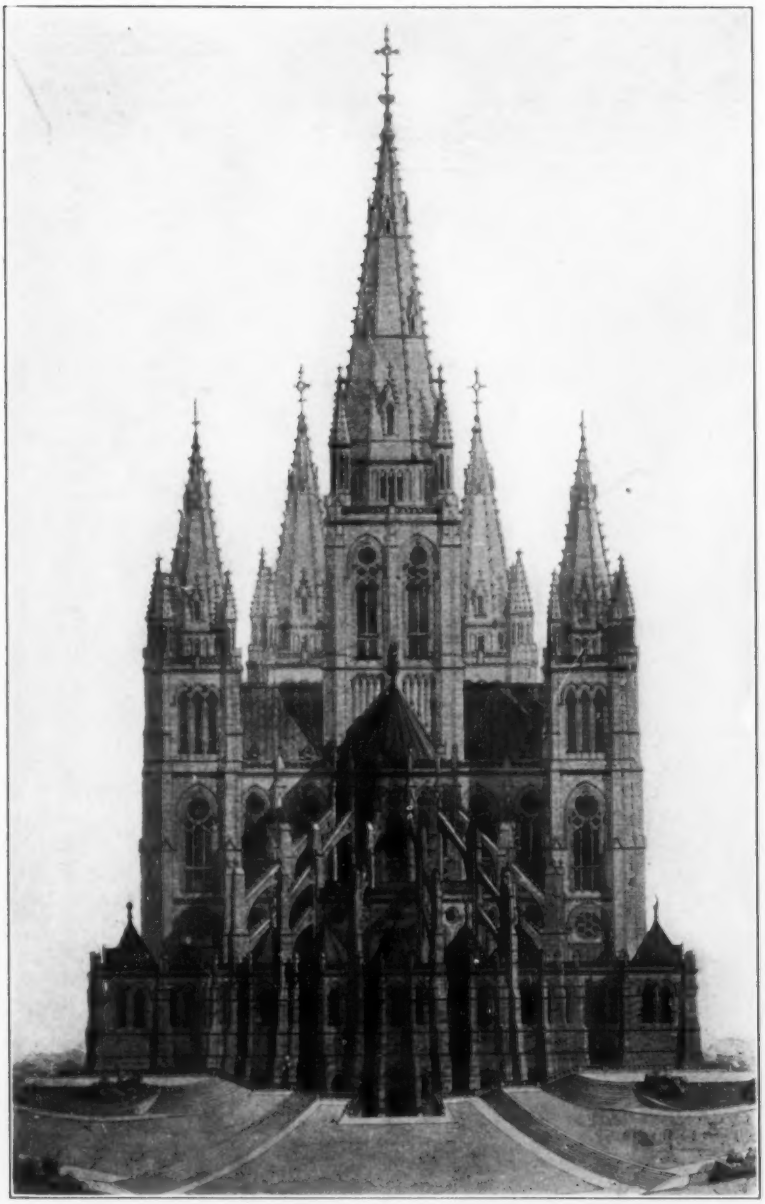
THE CATHEDRAL OF KOEKELBERG—PLAN.

Brussels, Belgium

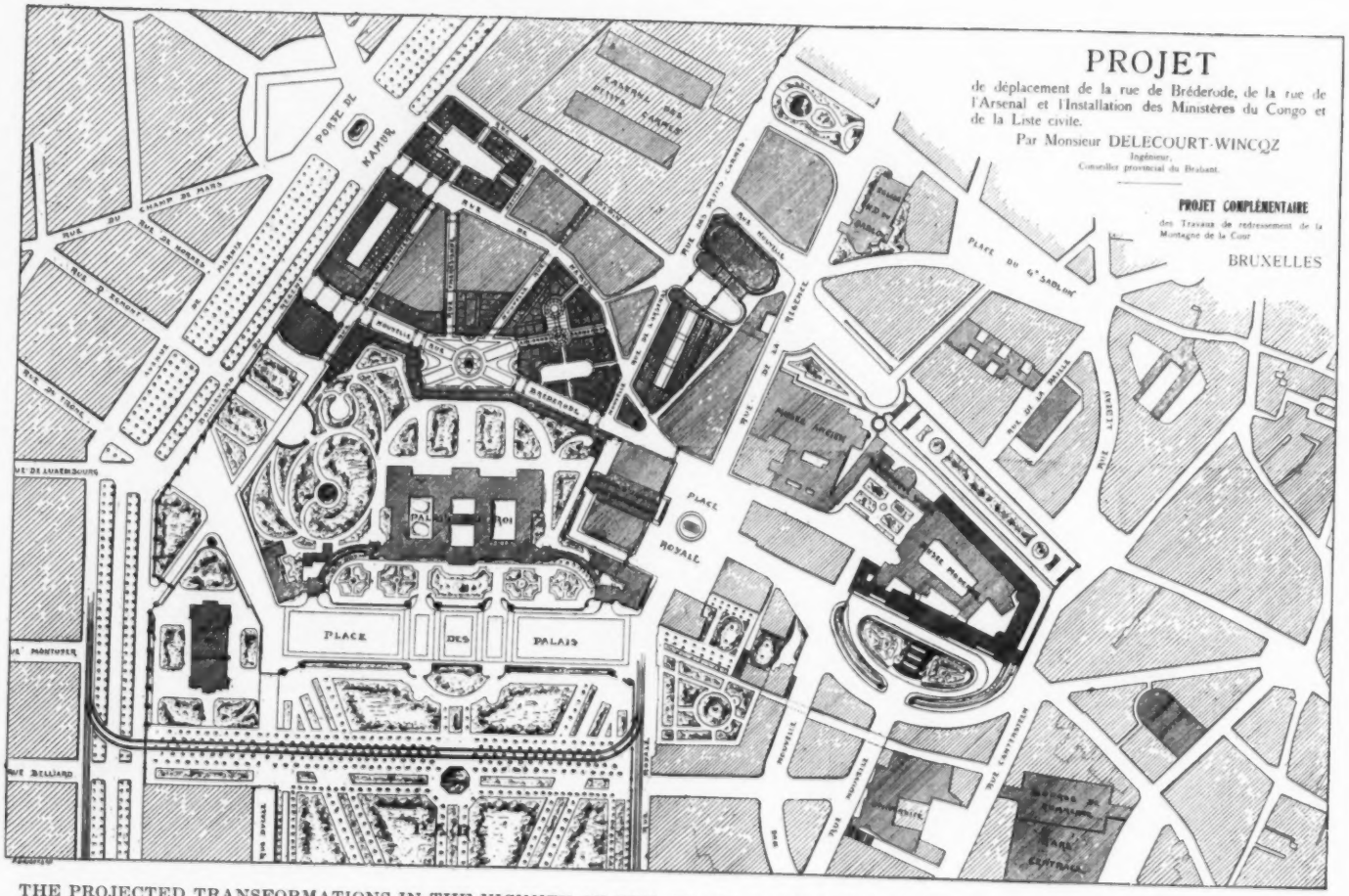
M. Langerock, Architect.

THE CATHEDRAL OF KOEKELBERG—FRONT ELEVATION.
Brussels, Belgium. M. Langerock, Architect.

THE CATHEDRAL OF KOEKELBERG—SIDE ELEVATION.
Brussels, Belgium.
M. Langerock, Architect.



THE CATHEDRAL OF KOEKELBERG—REAR ELEVATION.
Brussels, Belgium. M. Langerock, Architect.


PROJET
de déplacement de la rue de Bréderode, de la rue de l'Arsenal et l'Installation des Ministères du Congo et de la Liste civile.
Par Monsieur DELECOURT-WINCQZ
Ingénieur,
Conseiller provincial du Brabant.
PROJET COMPLÉMENTAIRE
des Travaux de redressement de la Montagne de la Cour
BRUXELLES
PLACE DES PALAIS
PLACE ROYALE
RUE DE LA LOI
RUE DE LA REGENCE
RUE DU CHAMP DE MARS
RUE DE NAMUR
RUE DU TRONE
RUE DE LUXEMBOURG
RUE BELLIARD
PLACE DU 42e LIGNE
RUE DE LA MONTAGNE
RUE CANTERSTEEN
RUE DU MUSEE

THE PROJECTED TRANSFORMATIONS IN THE VICINITY OF THE PLACE ROYALE, BRUSSELS, INCLUDING THE MONT DES ARTS.

Brussels, Belgium.

THE COLONIAL MUSEUM AT TERVUEREN, MAY, 1907.

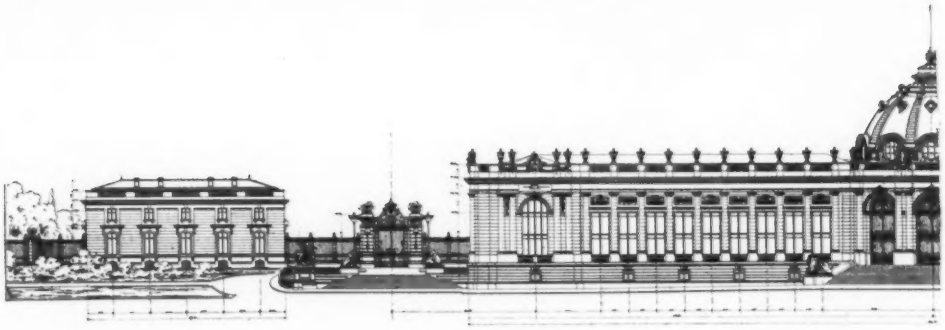
their half-formed desires. His constructions are always effective, generally happy, rarely simply things designed to give him personal pleasure. Their number is astonishingly large, and the sum of his annual expenditures upon them enormous. Yet his expenditures cannot form a basis on which to gauge his activity. The King is an opportunist who is also in a position to create opportunities. He does not spend vast sums for the beautification of Brussels without seeing to it that Brussels or the national government bears its share of the burden. And he is not above forcing the hand of the State, or of a municipality, by starting some great work which must be completed without his aid. In fairness to the King it should, however, be said that in those matters in which he himself profits most —the beautification of his personal estates is a case in point—the only requisitions that he makes are upon his own fortune. It should be said, also, that in his personal gifts to the nation he displays a generosity fairly astonishing.

An example of this generosity is the new arch which unites the two wings of the Palais du Cinquantenaire. This arch, very effective and imposing from a distance, but marred on closer view by much incongruity of detail, and by both the number and variety of the bronze figures and groups, which detract from the arch rather than adorn it, was designed and built in the incredibly short period of eighteen months. The project was an old one, and in its original form provided for an arch with a single great portal. It was found, however, that such a structure required foundations which the nature of the ground rendered impossible, and the matter remained in abeyance until 1902. In that year the King consulted Monsieur Charles Girault, the Parisian architect, who has served him so well during the

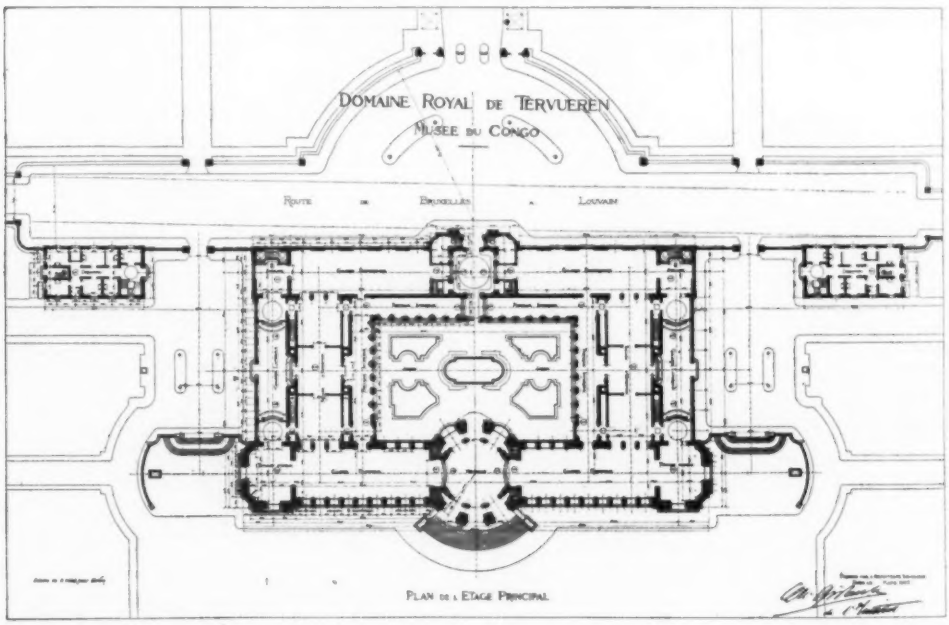
THE NEW ARC DU CINQUANTENAIRE (FROM THE ARCHITECT'S DRAWING).
Brussels, Belgium. Charles Girault, Architect.

THE NEW ARC DU CINQUANTENAIRE. Charles Girault, Architect.

Brussels, Belgium.



HALF ELEVATION OF FRONT.



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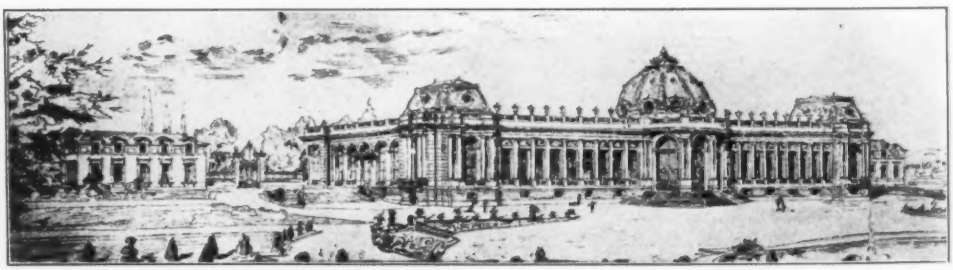


THE COLONIAL MUSEUM AND SCHOOL (CONGO MUSEUM) AT TERVUEREN
Brussels, Belgium. (JUST COMPLETED). Charles Girault, Architect.

last six or eight years, and best known as the creator of the charming Petit Palais in the Champs-Elysées, and secured from him a project for a structure of three portals. No further move was made until the spring of 1904, when the King announced his intention of offering the arch as his gift to the nation on the occasion of the 75th anniversary of its independence.

Monsieur Girault was called upon to execute the work, the King making the single condition—a severe one—that the arch should be finished in time for the celebrations of the following year. By June, 1904, the ground had been cleared and the work upon the foundations begun. This was only completed in December, and yet the finished arch was presented to the nation on September 27, 1905. The rapidity with which the huge work was performed—the facade of the arch measures 180 feet, or 60 feet more than that of the Arc de Triomphe de l'Etoile—was due in great part to the efficiency of two wooden scaffolds, 140 feet in height, of which the contractor, Monsieur Wouters-Dustin, made use. But the large number of men thrown upon the work was another important factor, as was also the perhaps unfortunate speed with which the many Belgian sculptors chiseled the bluish granite into relief or modeled the numerous allegorical groups and figures of bronze.

Beyond the Parc du Cinquantenaire, down the charming avenue that dips gently to the distant wooded hills and there curves onward under Gothic canopies to Tervueren, the King has given an other signal proof of his generosity and creative energy. In pursuit of his earnest desire to bring the two countries over which he presides into ever-closer union, he instructed Monsieur Girault in 1901 to prepare plans for a vast colonial museum and school, to be erected at Tervueren in the interests of the Congo Free State. The buildings were begun in the spring of 1904, and have just been completed.

THE NEW ROYAL PALACE AT BRUSSELS, SHOWING ALSO THE SURROUNDING IMPROVEMENTS.

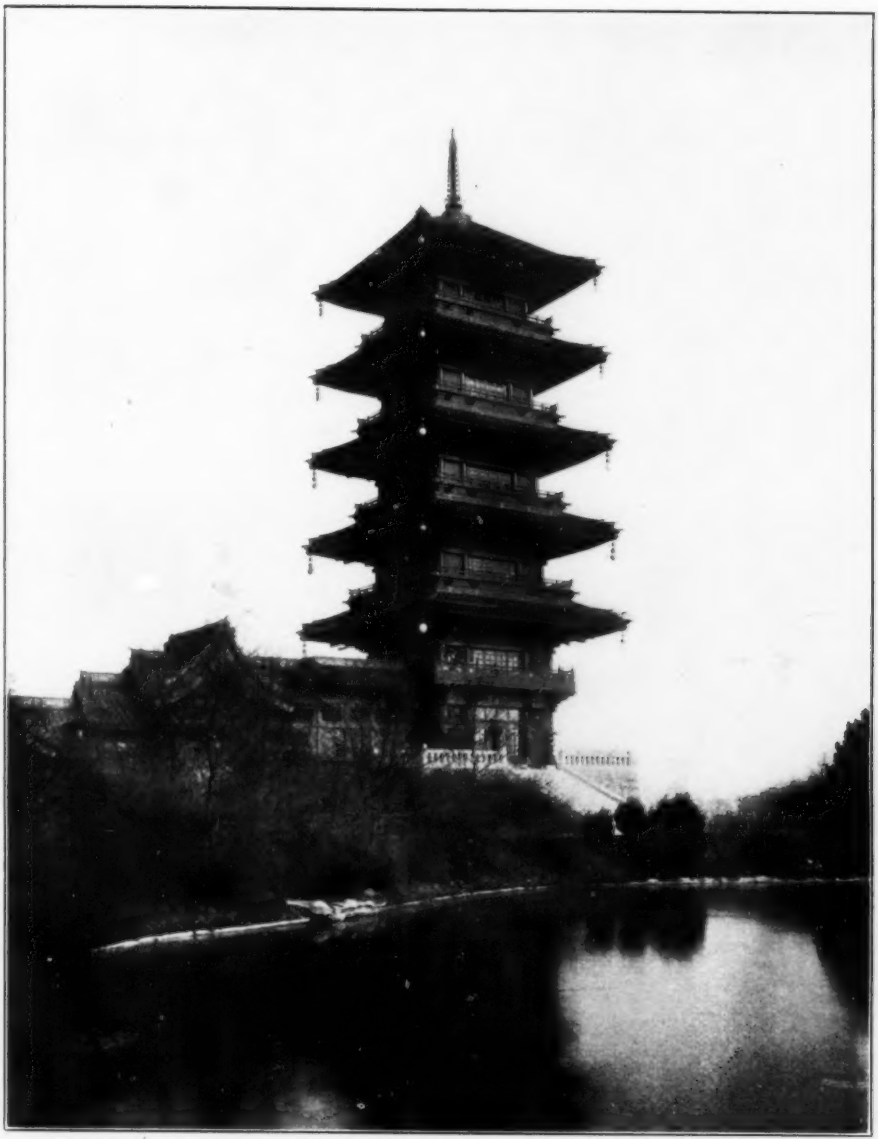
It would be difficult to imagine a more charming spot wherein to erect a colonial museum and school than Tervueren, and it would be difficult also to conceive of buildings more happily suited to their purpose and surroundings than those of Monsieur Girault. Their height has been perfectly adjusted to that of the stately trees they face. Delicate ornateness coupled with spaciousness and width has given them presence and dignity. And if externally they do not at once proclaim the set purpose they are to serve, their internal arrangements leave it in no doubt.

Almost opposite Tervueren, on the other side of Brussels, lies Laeken, with its royal château, where the King spends most of his time when in Belgium, its beautiful park where so many garden parties of happy memory have been given, its famous greenhouses, and its more famous Japanese pagoda. It is now possible to reach Laeken from Tervueren without crossing the city, and in so doing, to realize also the scope of one of the King's most ambitious projects. Our road no longer lies through the Parc du Cinquantenaire; quitting the Avenue de Tervueren at its intersection with the Boulevard Militaire, we now gain Laeken by way of the Avenue Van Praet.

THE COMPLETED SOUTH WING OF THE NEW SCHOOL OF WAR.
Brussels, Belgium. Henri Maquet, Architect.

The Boulevard Militaire and the Avenue Van Praet, wider both of them than the splendid boulevards which already circle the denser portion of Brussels, form about half of what will soon be the world's longest and perhaps most beautiful Ringstrasse.

The Laeken termination of the Avenue Van Praet is a square, noteworthy quite as much for its fine proportions as for the copy of the Fountain of Neptune at Bologna that the King has placed in it, a unique copy, about the modeling of which there is some mystery. Near this square and just within the royal domain rises the Japanese pagoda. There exists no more perfect building of its kind in Japan or out of it. Of all King Léopold's plans for the beautification of his capital or estates, none has been so happily imagined as this, none inspired by motives more purely aesthetic, none more successfully carried to completion. La Tour Japonaise is perhaps, among all the King's constructions, that to which the inhabitant of Brussels points with most pride, that about which he is most curious. Yet the original impulse out of



THE KING'S JAPANESE PAGODA AT LAEKEN.
Brussels, Belgium. Alexandre Marcel, Architect.

THE KING'S JAPANESE PAGODA AT LAEKEN—THE GRAND STAIRCASE.
Alexandre Marcel, Architect.
Brussels, Belgium.

which the tower grew came to the King quite unexpectedly. During a visit to Paris in 1900 he was greatly struck by the reproduction of a small Japanese pagoda at the Exposition. He almost at once bought the carved portal of this pagoda, and shortly afterwards summoning its architect, Monsieur Alexandre Marcel, requested him to consider plans

THE KING'S JAPANESE PAGODA AT LAEKEN—THE ENTRANCE HALL.
Brussels, Belgium. Alexandre Marcel, Architect.

for a similar though far more imposing reproduction for Laeken. Perhaps the King remembered the famous Chinese pagoda built in the 16th Century at Laeken by Archduke Albert of Saxe-Teschen, for the present pagoda stands in its place. Monsieur Marcel accepted the royal commission and work was begun in the following year. All the tower's carvings, whether of wood or stone, all its ornaments of bronze or metal, its doors, ceilings, wainscoting, and nearly every other element of decorated detail, were commanded and completed in Japan. The richness and splendor of the interior is beyond praise, and the first view of the Grand Staircase so striking that on passing the portal—the same that the King bought in Paris—one would hardly care to gain the top of it were its incline less alluring.

This Grand Staircase is contained in the series of little Japanese houses crowded together in a row at the base of the tower, and is lit by splendid stained glass windows, telling the story of old Japan at war. The other story, Japan at peace, unfolds itself along a frieze above these windows, its heroes, as tranquil in their homes, tilling their

fields, or at their games as their warrior brethren are rampant. The tower is a place of contrasts. From out of the haze, now blue, now golden, which floods the Staircase, we enter the Hall, where all is lacquer, carving and enamel. Thence we gain the burnished room of

THE KING'S JAPANESE PAGODA AT LAEKEN—A VIEW ON THE FIRST STORY.
Brussels, Belgium. Alexandre Marcel, Architect.

the next story, and so on, story after story, each utterly unlike the other. The ceilings of the Hall, and of the first and third stories, are particularly beautiful, the last being of vellum through which shine at night a hundred electric lights.

The King originally permitted no one to enter the tower except upon his express invitation. Recently, however, this restriction has been somewhat relaxed, and a visitor to the royal country seat now enjoys comparative freedom. But even with this freedom he must not reckon without his host, "Le Roi Batisseur," as Belgians like to call their King, has not come by his title for nothing, and the park is rarely quite devoid of workmen. Now especially all is activity. The breathing space of the last year or so, when work upon the exterior of the Church of St. Mary, outside

the palace gates, was all-absorbing, has ended. The German gothic ornamentation of this Church, designed by Baron von Schmidt of Munich, has begun to take definite form, and the King's attention has again reverted to work within the park.

This new work consists of additions to the palace and the construction of a short electric railway through the royal enclosure, uniting the palace with the railways of the State. The two splendid wings which Monsieur Girault added to the historic château in 1901 have proved too small for the increasing demands upon the King's hospitality and a story is being added to each and to the original structure as well. To realize the extent of these recent additions it need only be said that those of Monsieur Girault cover 140,000 square feet and that the left wing alone contains a grand staircase, hall of honor, an imposing entrance hall, a court ballroom, a State banquet hall and reception rooms. Whether the new work will leave unmarred that sureness of proportion and symmetry that stamp Monsieur Girault's work at Laeken only time will show. That the King's past projects and transformations have been for the most part happy, must be our best reason for hoping that here at least necessity may be made amenable to law, the proverb notwithstanding.

The space requisition by the King for his electric railway through his Laeken estate has caused no such outcry as that of 1904, when he widened the Place des Palais at the expense of the Park of Brussels. At that time protests were not confined to the deadly serious, though useful English folk who guard the world's traditions from those portals of public opinion, the London papers. Nor could the clamor be stifled in the depths of an American or English leader, even under the weight of such a heading as "Vandalism in Brussels." It spread to Brussels itself, and the wisdom of the royal initiative was seriously doubted. But as the stately new palace rises steadily from its foundations, indifference has succeeded protest; and approval indifference. The true "Bruxellois" has somewhat more time upon his hands than is necessary for the supplying of his daily needs, and he is apt to loiter where building is going on, especially if the builder be King Léopold. Pacing the enlarged Place des Palais has taught him the wisdom of the King's transformation. The Place des Palais of former days, while of sufficient width to permit the gathering of comfortable impressions from pilaster and column, capital and frieze, would hardly have afforded a focus sufficiently long for others of wider angle. And it is just such impressions which enable us to appreciate best how homogenous and imposing is the long facade that Monsieur Maquet, in whose charge the work is, has designed; and how successfully he has proportioned the dependent wings and lodges.

Across the park from the new palace and beyond the Rue de la Loi in the Place Quetelet, it was the King's intention to build a palace for his nephew, the Crown Prince. The designs for this palace, also by Monsieur Maquet, are most attractive, and their realization would have added to Brussels an admirable monument, admirably placed. Unfortunately the years that have elapsed since the designs were made and approved leaves little doubt that the project must be coupled with the very few others that the King has abandoned. Various reasons have been suggested to explain the King's reluctance to build in the Place Quetelet, but it does not seem unlikely that he already contemplates rearing there some splendid foil to the colossal structure to be built at Koekelberg.

No visitor to Brussels, passing into the Place Quetelet from the South, can have failed to be struck by the view disclosed to him. A long, straight boulevard, upon which the eye rides as upon a wire beside a quickly-moving train, hangs in a loop before him. At its western end, dominating Brussels and the surrounding country, is Koekelberg, and here two years ago the King laid the cornerstone of a Cathedral which, when completed, must be compared with the great Cathedrals of the middle ages. Although the analogy goes no further, in

name and position the Cathedral of the Sacred Heart at Koekelberg will recall that of Montmartre. The plans were drawn by Monsieur P. Langerock, of Louvain, and have attracted wide attention. They provide for a monument greater than that of Antwerp, the largest Cathedral of the Netherlands, slightly smaller than the Cathedral of Cologne, and which in style revives splendidly the characteristic Flemish gothic of the 13th Century.

The Cathedral is in the form of a Latin cross, and in its ground plan bears a marked resemblance to the Cathedral of Cologne. It contains a number of unique and highly interesting features. One of these is the unusual development of the crypt. The Cathedral at Koekelberg is destined to become not only a great temple, but the goal of many pilgrimages. The crypt contains most of the chapels which this latter condition implies, and is of such proportions as to constitute a church in itself. The difficulty of lighting it has been perfectly solved by surrounding it on three sides by a moat. A truly admirable arrangement makes it easy of access. The crypt has been brought forward some seventy feet beyond the façade of the superstructure. Above its projecting portion and parallel to the façade runs a broad roadway, rising on the right and left in an easy curve from a point some hundred and fifty yards distant. In the parapet before this roadway and facing a broad square is the entrance to the crypt. Such an arrangement has the very important result of making the two places of worship completely independent of each other, and of permitting two entirely distinct services to be held at the same time. The crypt is dedicated to the Immaculate Conception of Mary and the church above it to the Sacred Heart, two mysteries that most appeal to the Catholics of Belgium.

The sacristies are another especially distinctive feature of the Cathedral. In the great monuments of the past the sacristies, almost never a part of the original design, are only too apt to be both inharmonious and inconvenient. Here, on the contrary, they have been made the subject of long and careful study. They are so placed as to complete the garland of chapels about the apse, and while retaining all their customary isolation, to form an integral part of the general architectural scheme. Far from being merely distressing dependencies, they actually add to the general effect a charm peculiarly their own.

On entering the church, whether from the transepts or the narthex, the eye plunges directly into the interior of the great central lantern. This is provided for by the most ingenious device of splaying the vaulting above the base of the lantern, and it renders the interior very impressive in all its proportions, more than usually striking. Conversely, the device provides a vast amount of light, which is dispersed by eight windows no less than sixty feet in height. The vaulting of the lantern has been brought to a point 250 feet above the pavement. The spire rises to the height of 518 feet, and is consequently to be the loftiest construction in the Netherlands.

The Cathedral at Koekelberg is purely a thing of the King's imagining. Except for his initiative and generosity, neither it nor the other work already described could have been begun. The same is true of nearly every construction of national importance undertaken in recent years, and of many another of more local interest. It may be worth while to mention a few of these latter. They include the new parish church which the King has given to the little village of Heysel, near Laeken, the new School of War, the Avenue de Meysse, 500 feet broad, between Laeken and Meysse; the delightful arcaded promenade at Ostend, the Chinese restaurant at Laeken, designed by the architect of the Japanese pagoda, M. Marcel, and in its way not inferior to it; villas at Wenduyne, a palace on the French Riviera and the new Post Office at Ostend.

About this new Post Office there is a story which, whether fact or fable, describes well the astuteness and directness of the King's judgments. When the plans were brought to him for his approval he pronounced them perfect. Warmly congratulating the architect for

having designed a building in the very purest Flemish style, he declared the appropriateness complete — for Bruges. And the legend runs:

"But do you remember that our Post Office is to be built at Ostend?"

At this the architect seems to have been somewhat cast down.

"Ah, you are really too grave. Take a trip to Paris, it will brighten you. And by the way, the Spanish Palace at the Exposition isn't half bad. Have a look at it. Let me see, haven't I read somewhere that Ostend was once under Spanish rule?"

No doubt the King's other architects —six or eight of the more important represent as many distinct nationalities —could, if they cared, recount stories of similar drift. Certain it is that they each and all unite in praising the decision and resourcefulness of the man for whom they work, his clear-cut understanding of what he is about, his largesse, his ability to "make good."

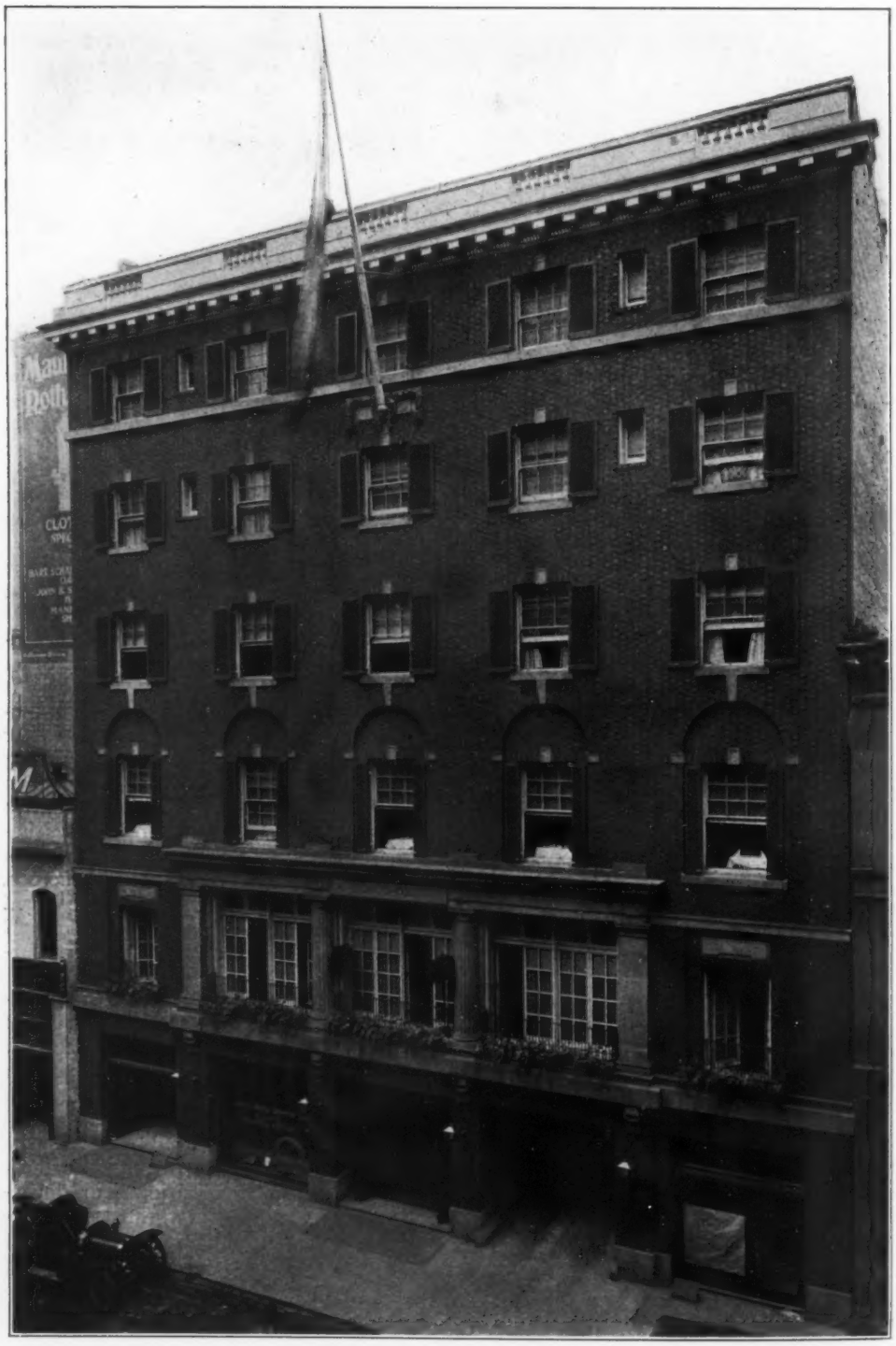
The King's age does not prevent him from adding continually to the many projects which he cannot hope to live to see realized. A large number of these are embryonic; others, like the proposed Walhalla, or Hall of Fame, the great hospital on the Riviera for invalids returning from the Congo and the projected transformation of the district about the Rue Bréderode, though more definite in form, are still far from realization. It remains, however, to speak only of the most radical and important of all the King's conceptions.

Every visitor to Brussels knows the Montagne de la Cour; the home of English book sellers, of music dealers, of many photographers, of voluble glovers and deprecative vendors of curios. The King has made over the whole of this district to the use of Monsieur Maquet, the architect of the new palace, who is charged to resolve it into what is to be known as the Mont des Arts. This somewhat vague title describes a group of buildings dedicated to the advancement of art and learning with which the King proposes to crown the city in the immediate neighborhood of the Place Royale. Three buildings of the group already exist, the two royal museums and the royal library, and to these there remains to be added a great dominant structure which shall flank the Musée Moderne on three sides and unify the whole. The elaboration of the project makes necessary the levelling of all houses contiguous to the buildings which are to remain; those to the south and west, the latter including the Salle du Grand Harmonie, and to the north the shops mustered in that hallway to royal favor, the Montagne de la Cour, a deferential yet phlegmatic row, with the seal of service "by appointment" on their smooth faces. The suppression of the motley brood of buildings under the southern lee of the Museum of Ancient Art and the Library serves the double purpose of clearing the way for the new colonnaded façades with which these are to be embellished, and of widening to thrice its width the Rue Ruysbroeck. The other buildings disappear to make way for the hugh phalanx-like formation enclosing the Musée Moderne.

With these transformations accomplished the Mont des Arts becomes structurally complete, and, in that it is bounded on all sides by streets, graphically isolated. But this isolation is, after all, more implied than real, and the King, who does nothing by halves, proposes to make it real and completely effective by razing the little island of houses between the Montagne de la Cour and the Rue Coudenberg. This space becomes, under the new order of things, a terraced "glacis," an esplanade of marble and verdure, and a place for sculptural ornamentation.

To live to see the Mont des Arts completed is probably the keenest desire of the King in his character of "Le Roi Batisseur." If the project is not the very first in the long list so wonderfully varied and so largely fortunate, which the King has to his credit, it was the first to give him that prestige he most cherishes, as its realization will doubtless best establish his right to an important niche in the Hall of Fame of his imagining.

Albert H. Michelson.
U. S. Consul, Turin, Italy.



Plymouth Place, Chicago, Ill. CHICAGO AUTOMOBILE CLUB. Marshall & Fox, Architects.

A French Electric Villa

There is nothing that strikes an American citizen so much, after living in France for a few months, as the predominance of the artistic over the practical. Just think how many beautiful apartment houses there are without telephones and elevators, that have neither electric light nor bathrooms, that are unprovided with either heating or fire-alarm apparatus, and that are woefully deficient in the hundred and one little things that make life agreeable. Parisians do not appear to notice their absence, but we who are accustomed to the advantages and luxuries of New York homes miss them terribly.

But, with all the conveniences of our up-to-date interiors, have we really reached the acme of perfection? It appears not. Scientists, sociologists and architects affirm that the science and art of building and furnishing houses is still in its infancy, and that we can easily ameliorate the conditions of life by boldly utilizing modern discoveries, especially electrical ones. The essential object to be aimed at, they tell us, is simplification. "The scheme of lite has become far too complex. We must aim at having within reach of our hand, and at the expense of a minimum amount of effort, everything that is indispensable to our well-being. Space, too, must be economized, for it is not everybody that has at his or her disposal the three hundred rooms of a palace."

The problem has already been seriously studied. Who has not dreamt of the day when it will be possible, if not to do without servants altogether, at least to reduce their number to a minimum? Did not Berthelot's epoch-making discoveries in synthetic chemistry show that sugar and other foods could be artificially produced?—and did not the great chemist himself say that he could foresee the time when, thanks to inexhaustible stores of energy drawn from the bowels of the earth, the food supply of the entire world would be manufactured synthetically, and in so condensed a form that the cook's occupation would well-nigh be gone? Finally, what middle-class householder has not ardently wished for the advent of the day when his incommodious city dwelling would be provided with rooms that, at the touch of a lever or a button, could be instantaneously transformed into chambers serving a number of purposes?

Though fully aware that this is open to the criticism that it is utopian, I am convinced that some such wonders will find a place in the houses of the future. The progress made by electrical science has been so rapid, and its coming victories promise to be so numerous, that the rôle it is eventually to play is now beginning to be clearly defined. As an example of the multitudinous labor and time-saving uses to which it can be put, look at that wonderful house, the "Villa Féria Electra," which has been built by M. Gëorgia Knap at Troyes, an ancient cathedral town some hundred miles from Paris, and which I recently visited on behalf of the "Architectural Record." If not an exact type of what most houses will be like in fifty to a hundred years' time, it at any rate points the way towards progress.

Unable to respond to M. Knap's invitation as promptly as I should have liked, it happened that it was after dark when I arrived at Troyes. Eight o'clock was striking as the lumbering provincial *fiacre* that I had hired at the railway station entered the quiet street where he lives and deposited me at the entrance to the grounds of his house. The darkness was, indeed, so intense, that, doubtful as to whether I had got to the right number, I had to strike a match in order to see what was engraved on the marble name plaque. Finding that I had not made a mistake, I next looked about for a means of passing through the solid

iron gates, which apparently could not be opened from the outside. At last I espied an electric bell-push and rang.

Suddenly, in response to the pressure of my finger on the button, a shaft of light was projected through an opening in the gates full upon my face. Decidedly taken off my guard, I made an involuntary start backwards, and then moved out of its way. But, whether I moved to the right or the left, it continued to follow me. At the same time, the alley where this inquisitive searchlight is placed was lit up, and a clear, sonorous voice issued from behind the stone pillar to my right.

"Ah *mon cher monsieur,* I see you now," it said. "I didn't recognize you at first. *Entrez donc, et soyez le bienvenu!* Everybody has arrived now that you are here, so we can sit down to table as soon as you like. Allow me to open the gates for you."

There was a sound of machinery in motion and one-half of the entrance slowly swung open. Entering the alley, I was about to push the gate to when the same mysterious voice, which I naturally concluded came from some hidden loud-speaking telephone, bade me save myself the trouble.

"No need to bother about the gate,

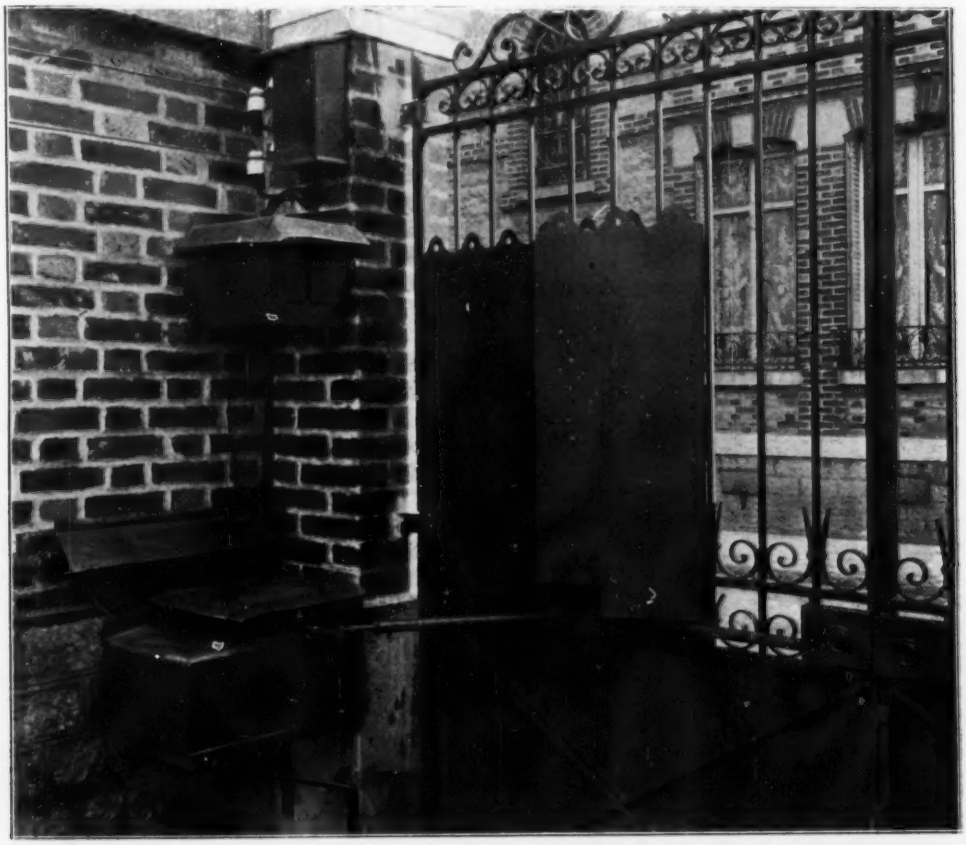
Troyes, France. VILLA FERIA ELECTRA—ENTRANCE GATES.

thank you. I'll close it. And now come along to the house. Straight down the alley, please, and turn to the right when you get to the bottom. You'll find me waiting for you in the vestibule."

M. Georgia Knap once more gave me welcome, this time with outstretched hand. Hardly had I stepped inside the house than a fresh surprise awaited me. I felt that something was moving beneath my feet, that the soles of my boots, which, in a moment of forgetfulness, I had omitted to wipe on the outside mat, were being rid of their mud automatically.

"An electric door-mat, set in motion by the simple opening of the door," said my host, by way of explanation, "is an absolute necessity in every well-appointed house. This little invention of mine is a great labor economizer, since it insures the cleanliness of my polished floors and staircases. . . . But permit me to show you the way to your room."

After mounting a staircase, M. Knap showed me into the bedroom that had been prepared in view of my visit and left me to make my toilet. When I had finished, he said, I should find him in his



VILLA FERIA ELECTRA—INSIDE THE ALLEY, SHOWING MECHANISM FOR OPENING AND CLOSING GATES; IN THE UPPERMOST BOX IS THE TELEPHONE BY MEANS OF WHICH THE INVISIBLE HOST GREETS HIS APPROACHING GUEST.

Troyes, France.

study, where he hastened to rejoin his other guests.

There were about a dozen of us to dinner that evening, and as we sat down no one save our host failed to be astonished at the sight of the table at which we were to eat. For it was evidently no ordinary table. Between its central *épergne* and the guests was a curious elliptical band of metal, in which was a deep groove, like a miniature tramway line. At one end—that opposite which M. Knap was sitting—was a circular disc, likewise traversed by the groove. Opposite each seat was a sort of glass and metal cylinder, the utility of which was to be explained a little later. Finally, at our host's right hand were a number of black and white electric buttons, which, as we soon found, were to play an important part during the whole of that memorable dinner.

M. GEORGIA KNAP'S VILLA FERIA ELECTRA.
Troyes, France.

"Let me explain to you," said M. Knap, "that these little black and white buttons are, in a sense, the servants that are to wait upon us. Neither man nor maid will enter this room, from the first course to the last, so we are dependent

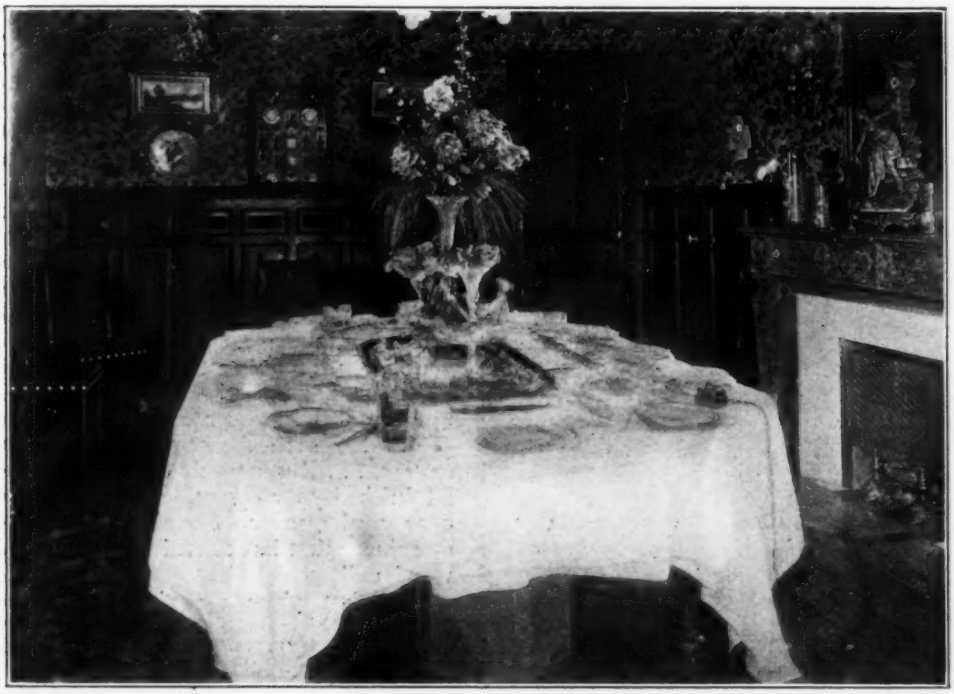
upon electricity for all our communications with the kitchens below. But I think we'll have a little more light on the scene, and a little more warmth, too, for the temperature, unless I'm greatly mistaken, has fallen."

A hidden switch was turned and instantly the table was flooded with multicolored light. The chrysanthemums, roses, and tulips with which the *épergne* was ornamented, the garlands of imitation violets that ran round the table, and the little glass and metal cylinders in front of us suddenly became incandescent. The last-named, we found, were electric radiators, capable of increasing the warmth of the room in a very few minutes.

"If these are not enough, and your feet happen to be cold," we were told, "you will find electric foot-warmers under the table opposite each chair. You can turn the heat on and off by touching a switch with the toe of your boot."

Before we had fully recovered from these fresh surprises, a still more astounding thing occurred. The disc opposite our host opened as though by magic, a steaming tureen of soup appeared through the opening, and, on the sections closing, rapidly and noiselessly travelled to the seat occupied by Madame Knap. The ladle happening to be rather awkwardly placed, she was about to lean forward to reach it, but was saved the trouble by the tureen swinging round and placing the spoon almost in her hand. A touch on one of the buttons under her husband's control had made it perform that little graceful trick.

The lady having taken what soup she wanted, the tureen passed on to the next diner, and so on round the table until



VILLA FERIA ELECTRA—THE ELECTRIC DINING-ROOM TABLE.—UNDER THE CLOTH MAY BE SEEN THE SHAFT THROUGH WHICH THE DISHES PASS BEFORE REACHING THE TABLE.
Troyes, France.

everybody had been served. When all had finished, it made a second circuit, inviting each to partake once more of its delicious julienne; after which it returned to the head of the table and disappeared.

In a few seconds, the soup tureen was succeeded by a special receptacle for holding dirty plates, which it removed from the table in less than half a minute.

"No staff of servants, however well trained, could have performed that work so expeditiously," remarked our host. "It is true you were put to the slight trouble of placing your plates in the receptacle. But think of the enormous advantages of this system of table attendance. No danger of having your clothes spotted with grease by clumsy attendants; no clattering of crockery; no hurrying backwards and forwards of servants, and no indiscreet ears to hear what you are saying."

VILLA FERIA ELECTRA—THE MECHANISM BY WHICH THE DINING SERVICE IS ACCOMPLISHED.
Troyes, France.

The next things to appear on the electric dinner table were bread and wine, the latter on a special support holding four bottles. Then came the next course, in company with plates warmed by electricity. And so on until the end of the repast.

By the time the coffee and *liqueurs* had arrived, the room—a rather small one for so many people—had become a little over-heated. Somebody remarking that it was getting "too warm to be pleasant," M. Georgia Knap begged us to be patient for a moment or two, as the temperature was nearly at seventy degrees, and on reaching that point the ventilation would be done automatically. It was, indeed, as he had said. A minute later, a gentle breeze came from beneath the table—a breeze scented by its passage over perfumed water.

"This is the method by which I propose to ventilate all the houses that I am called upon to build," said the architect and inventor. "The old plan of ventilation, at any rate in France, is to open doors and windows, with the inevitable result that you catch your death of cold. No such danger with this new system. . . . But, now that I see you have all finished your cigars, let me show you over my house and explain some of the machinery that has caused these so-called wonders."

The first place we visited was the kitchen, which is situated immediately beneath the dining room. Everything being electrical, the best of cooks, accustomed to the old methods of cooking, would feel himself quite at sea amidst the many strange apparatuses to be seen there on all sides.

Fixed to the walls are numerous switch boards with their levers, galvanometers, etc. Cooking utensils are made of aluminum and differ entirely in shape from ordinary ones. But what particularly struck me was the method employed in using them. The succulent fowls that we had had for dinner had been cooked, we were told, in the electric oven to the left of the window: an oven the interior of which consists of a series of reflectors and special incandescent lamps. From twenty to thirty

minutes, according to the size of the bird, was ample time to cook them *à point;* and when they were ready the current was cut off automatically and a bell rang to inform the *chef* that he could take them out and prepare them for the table.

"This little apparatus for timing the cooking of joints and poultry is very convenient," explained our cicerone. "It insures everything being done to a turn. I have applied it even to the making of mayonnaise sauce. The cook sets the needle to three minutes, in this way,"—suiting the action to the words—

VILLA FERIA ELECTRA—TELEPHONE AND PLAQUE COMMUNICATING WITH THE ELECTRIC GATE.
Troyes, France.

puts the electric motor in motion, and then is free to do something else. At the end of the time indicated the motor stops and the bell rings to tell him the work is done. There is nothing so convenient, I can assure you, as an electric *cordon bleu.* It doesn't waste time by gossiping while the milk boils over or the *oeufs à la neige* thicken; it spoils nothing, and as regards cleanliness it is without an equal. Just look at this little table here, and tell me if you do not think it would be a valuable addition to any household."

In a corner of the kitchen, and on a table with a top that can be revolved, were a number of little culinary apparatuses, all worked by electricity. They included a mincing machine, a miniature churn for the production of fresh butter at a moment's notice, a machine for making mayonnaise sauce, another for grinding coffee, and a fifth for polishing knives. Each could be set in motion by means of an adjoining tenth of a horse-power motor, workable at a cost of about a cent an hour.

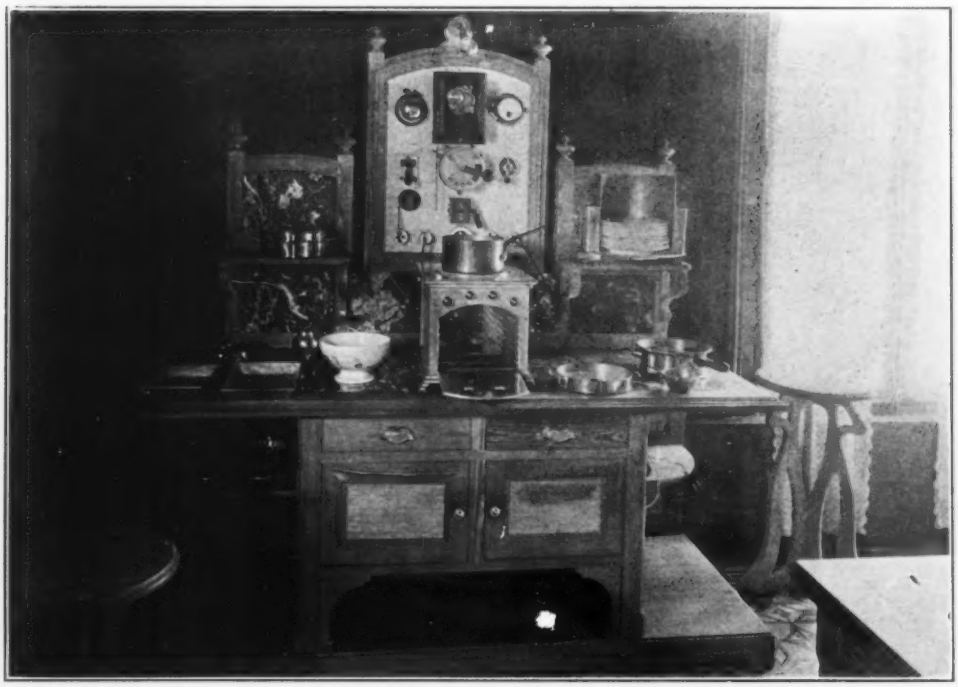
"As you see, we utilize electricity for nearly everything," said M. Knap. "I have even invented an electric machine for washing dirty plates and dishes. It will hold fifty pieces at once, and wash and dry them in thirty seconds. But that, compared with other inventions which I have to show you, is hardly worthy of your attention; so I would now have you look at the apparatus by means of which our dinner was placed on the electric table."

The speaker pointed to a sort of lift that reached from the floor to the ceiling in the center of the kitchen.

"On receiving a signal from the dining-room that a fresh course is wanted," he continued, "the cook's assistant places it on this tray and pulls down the lever marked 'Montée.' It immediately rises the circular discs on the table above open automatically, it passes through that opening you see in the ceiling, and on reaching the table is retained by the discs closing. In order to remove, say, a joint, he works the lever marked 'Descente,' whereupon the discs open and the dish with its contents descends. The machine is easily worked, and its mechanism is so simple that there is not the slightest danger of its getting out of order."

When he had finished his explanation of this ingenious contrivance, I noticed a marble plaque, to the right of the window, on which were a number of switches, a bell, an iron mask, with wide-open eyes and mouth, and a central pointer capable of being turned either to the right or the left by means of a handle. The juxtaposition of a telephone made me conclude that it was with the aid of these various appliances that M. Knap

controlled the gate at the entrance; and on inquiring I found that I was not mistaken. A visitor's arrival is announced by the bell ringing. The person whose duty it is to attend to callers at once goes to the telephone and asks who is there. The reply can be heard quite distinctly. In fact, the microphone at the gate is so sensitive that people and vehicles passing in the street can be heard almost as plainly as though they were but at a few yards distance, instead of three hundred yards away; while the ticking of a watch, when it is placed quite near the apparatus, sounds like the strokes of a sledge-hammer. Unless the visitor is acquainted with the "Villa Féria Electra," he will probably be too surprised to reply. How then does the janitor know who is there? By a very simple and effective arrangement of mrirors, which M. Knap calls a periscope. On glancing out of the window, after lighting up the avenue and garden with their searchlights if it is night-time, a clear image of the caller can be seen on a large and slightly convex mirror, situated not many yards away. A quarter turn of the pointer to the left sets the machinery in motion for opening the gate; a quarter turn to the right will close it. The iron mask serves the useful purpose of indicating at which of the two entrances to the grounds of the house—front or back—visitors are ringing. If at the former, a white disc appears in the left eye; if at the latter, in the right eye. Moreover, when letters are dropped into the box at the main entrance, a white label, shaped like a tongue, shoots from the mouth.



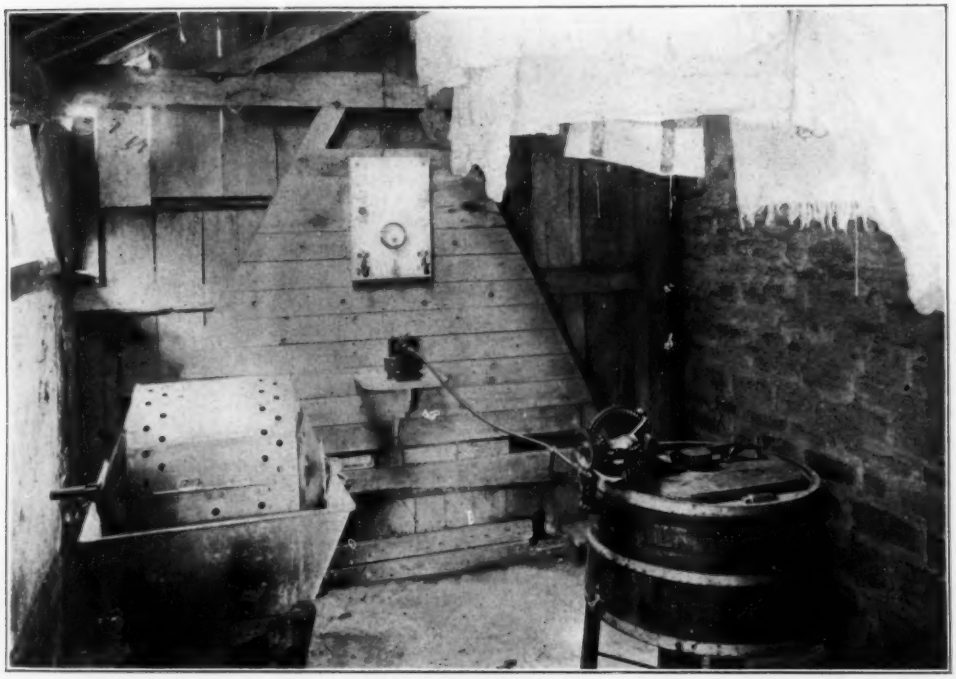
VILLA FERIA ELECTRA—ELECTRIC KITCHEN RANGE.
Troyes, France.

The night being now far advanced, the guests whose homes were in Troyes took their departure, while we who had come from a distance retired to our rooms. Before saying "good night," however, our host took the trouble to explain to us that we need have no fear of fire, that outside each room door there was an electric fire alarm, "another of my little inventions." On the temperature rising

beyond a certain point, all the bells in the house are set ringing.

On the following morning, after an excellent night's rest in the most comfortable of electrically heated bedrooms, M. Knap continued to show us over his house and grounds. We paid a little visit to the laundry to see the washing machines, which are worked by a one-tenth horse-power motor at a trifling cost.

"The clothes are left in the rotary



VILLA FERIA ELECTRA—A CORNER OF THE LAUNDRY, SHOWING ONE OF THE 1-10 HORSE-POWER MOTORS WITH WHICH THE MACHINES ARE WORKED.
Troyes, France.

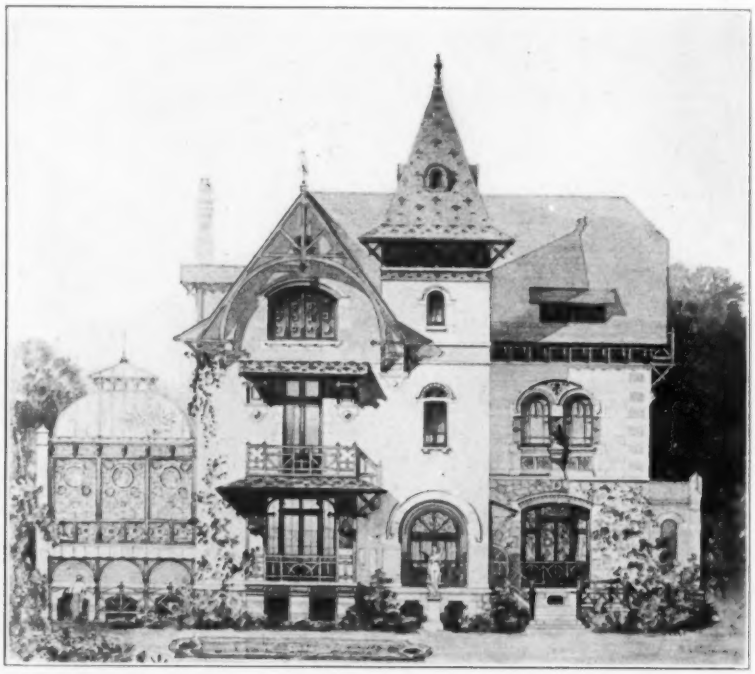
washer for twenty minutes," explained our guide. "They are then put into the rotary rinser for a like length of time, after which they are ready to be passed through the wringer and hung up to dry. When the family washing for the week is done in less than an hour, washing day is no longer an occasion to be dreaded."

Adjoining the laundry stands a small building containing the accumulators. These produce a continuous current of about twenty-eight volts, a very low voltage indeed, yet quite sufficient for the working of the washing-machines, the electric table and its lift, the electric doors, the small culinary apparatuses in the kitchen, the ventilating and fire-alarm appliances, and other minor contrivances.

On returning to the house and M. Knap's private study, the architect drew my attention to the fact that the villa in which he had installed all these electrical devices was one of quite ordinary construction, and that in one specially built it would be possible to derive still further advantages from electricity. He placed before me a number of water-color drawings and plans, some of which are reproduced in these pages, and, as they embodied his ideas on the subject of the houses of the future, kindly consented to explain them in detail.

"The art of the modern architect and engineer," he said, by way of introduction, "consists in utilizing electricity, compressed air, heat, light, and water in all their applications. He must, there-

fore, build houses on entirely different principles from those now adopted. His houses, in short, must have double walls. How can warmth, produced by low pressure heaters, be efficaciously maintained when the outside air is continually filtering into our rooms? How can we keep our interiors cool in summer when the walls of our houses are being almost baked by a July or August sun? Moreover, this use of double walls is not at all a new idea, since most Russian houses, even old ones, possess them, in order to prevent the cold from penetrating. A current of air, only a few degrees above zero, circulating between the two walls is sufficient to keep the temperature of the rooms unvarying and lasting. In eastern countries houses are also built with double walls, so as to keep out the intense heat. Why don't we do the same, both in the Old and in the New World, where changes in temperature are sometimes very sudden? If the cost of building double walls is greater than that for a single one, the additional expenditure is quickly covered by the economy in fuel. But I have yet to point out another advantage in double walls—the most important one of all. Between them—and I suggest that they should be about two feet apart—I would place all the pipes, conduits, wires, etc., necessary for the proper working of the household. For instance, the water-pipes, which would no longer run the risk of being frozen in winter, would be there; and so also would the rain-water pipes, which,



AN ELECTRIC HOUSE DESIGNED BY M. KNAP. FRONT ELEVATION.

when on the façade of a house, often, to my mind, spoil its appearance. Side by side with the latter I would put the conduits of the low-pressure steam-heaters, thus keeping an even temperature between the walls. Then, apart from conductors of electric force and light, telephone and electric-bell wires, vacuum tubes employed in removing dust from the rooms, etc., etc., I should utilize part of the space for the little tubular elevators that I propose to have working between the kitchens and the bedrooms and for the mechanical sideboard that con-

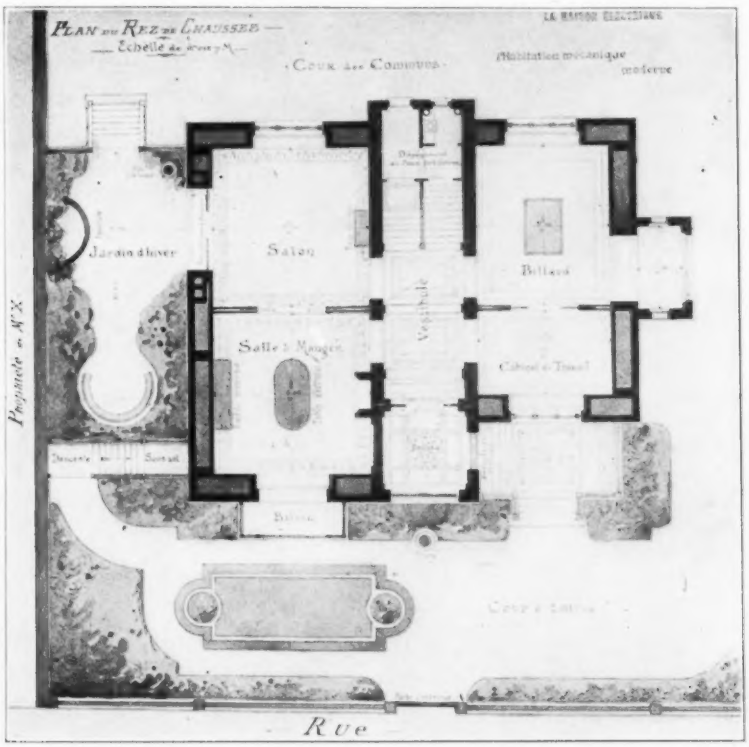
nects the dining-room with the kitchen. These drawings and plans will enable you to form a good idea of the type of electric house I have in view.

"The basement consists of a kitchen and pantry, an electric laundry, cellars, a room for the accumulators, another for the steam-heaters, and the underneath part of the electric door-mat.

"On the ground floor are large and boudoir, and the billiard-room into a library, or an artist's room, in accordance with the needs of the occupants.

"On the first floor there are four bedrooms with tubular elevators and electrically fitted-up dressing rooms, and, in the turret, a bath-room, with instantaneous heating apparatus.

"The second floor consists of two large bedrooms with dressing rooms and elec-



Jardin d'hiver—winter garden.
Aquarium—aquarium.
Soleil électrique—electric "sun."
Descente sous sol—steps into basement.
Salon—drawing room.
Salle à Manger—dining room.
Table électrique—electric table.
Buffet mechanique—mechanical sideboard.
Forte électrique à glissières—electric sliding door.
Billard—billiard table, descending into the floor electrically.
Cabinet de travail—study.
Decrottoir électrique—electric boot-cleaning mat.

AN ELECTRIC HOUSE DESIGNED BY M. KNAP. GROUND FLOOR PLAN.

small vestibules, a study, a dining-room eighteen and a half by twenty-one and a half feet, a drawing-room of the same size, an electrically mechanical billiard-room, a large terrace in front of the study, and an extensive electric winter-garden. The study can be turned into a tric service, and four servants' bedrooms. And now let me say a few words about some of the electrical apparatus which can be applied to a house of this kind. Some of the interior doors must, of course, be sliding ones, capable of being opened by the mere touching of a

button. Those that I have invented divide in two, each half sliding noiselessly and rapidly into the wall, and closing automatically. They have a great advantage over ordinary doors, inasmuch as they do not require half the effort to open them, and the space that they economize is considerable.

"The shutters to all the windows on the ground and first floors of the house before you are worked electrically, and are on the same principle as the sliding doors. In the bedrooms, they can be opened or shut at the same time as the curtains, while you are lying in bed. Moreover, all the shutters on these floors can be closed simultaneously from a certain part of the house, a very useful thing to be able to do when the sun is shining full on one side, to the detriment of curtains and carpets, and for one reason or another, you do not wish the servants to enter the rooms.

M. GEORGIA KNAP, INVENTOR AND OWNER OF THE VILLA FERIA ELECTRA.

"In addition to being able to open and close the shutters from your very bed, you are in direct communication with the kitchens by means of the tubular elevator and loud speaking telephone. Thus, your *petit déjeuner*, the mail matter, and the morning newspapers arrive at your bedside without your privacy being disturbed by servants entering the bedroom.

"The mechanical sideboard in the dining-room is worked on the same plan as the electric table, to which it is a necessary adjunct. It will be found exceedingly useful for serving light refreshments and afternoon tea.

"There is now only one more room that I need mention: that marked 'billiard room' on the ground-floor plan. By means of an elevator the billiard table can be let down into the basement. The room can then be used as a *salle de jeux*, or small theatre.

"In outlining for you my ideas on some of the essential features of an up-to-date electric house I have necessarily had to be brief. There are points, I dare say, on which my *confrères* of the New World would have liked me to be more explicit, points that one overlooks in a hasty conversation. If so, let me say that I shall be glad to answer any questions that they may like to ask me through your kind agency."

Before concluding, I must not omit to mention the interesting fact that the many inventions which are in working order in M. Georgia Knap's electric villa represent ten years' work, and that prior to devoting his energies to electrical science he was an ordinary mechanical engineer. He began his career at the age of about fifteen, in the locomotive works of the State and Eastern Railway Companies. A few years later, when cycling commenced to become popular, he opened a repairing shop, with the modest capital of twenty dollars; and from that time dates his prosperity. From inventions useful in the manufacture of cycles he passed to those interesting the progress of automobilism, and he is now one of the members of an important company which has built works at Troyes for the production of his motors.

Frederic Lees,

Officer de l'Instruction Publique.

Baron Haussmann and the Topographical Transformation of Paris Under Napoleon III.

II.

The Revolution and Haussmann—The Plan of Verniquet

All the old Paris maps are fascinating, especially those which are drawn *en cavalier;* that is, half map and half panorama, with the view point in the west so that the spectator may look into the façades of the churches. But the finest of all is the great map of Verniquet, which is not *"en cavalier"* but simply geometrical. We reproduce this map in nine sections.

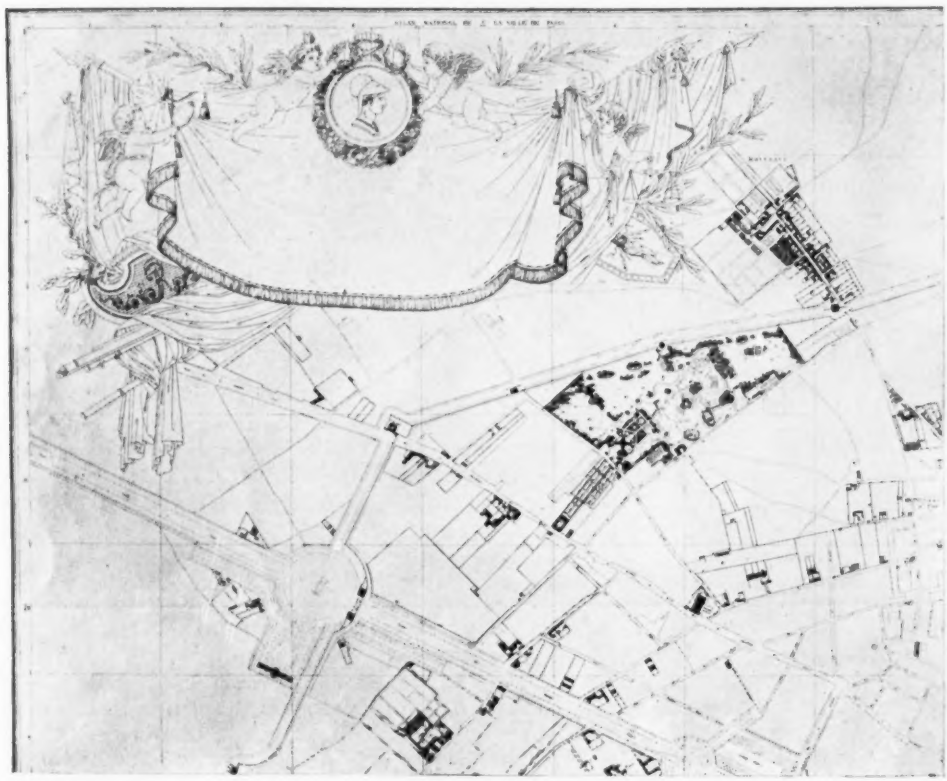


FIG. 1.—THE PLAN OF VERNIQUET (1791), SECTION 1.

Verniquet was a Burgundian architect who held the office of *Commissaire-Général-Voyer* in the bureau of Finance. Finding the older maps imperfect he began a new triangulation, at first privately, but after 1783 with the encouragement of Louis XVI (King 1774-1793). With the sixty engineers whom he employed he was obliged to measure the dark, narrow and crooked, but busy streets of old Paris in the night by torchlight. He finished his work in 1791.

In looking over the map of Verniquet we are surprised to see how like Paris it

is. We are accustomed to consider the city as largely a creation of the nineteenth century; but here is a plan, finished at the breaking out of the Revolution in which the dominant lines are firmly laid down, quite as we see them today. The great city builders of the seventeenth and eighteenth centuries, Louis XIV, Colbert, Le Nôtre, Blondel and the Académie de l'Architecture have left their not uncertain mark in vast reaches

old plan of the Madeleine is shown, in which it was conceived as a domical building, presenting a much finer appearance in the vista of the Rue Royale than the present rectangular structure. The place Louis XV, now De la Concorde, shows the delicate design of Gabriel with the sunken parterres and the equestrian statue of Louis XV.

Of the inner line of boulevards on the southern side—Rive Gauche—Verniquet

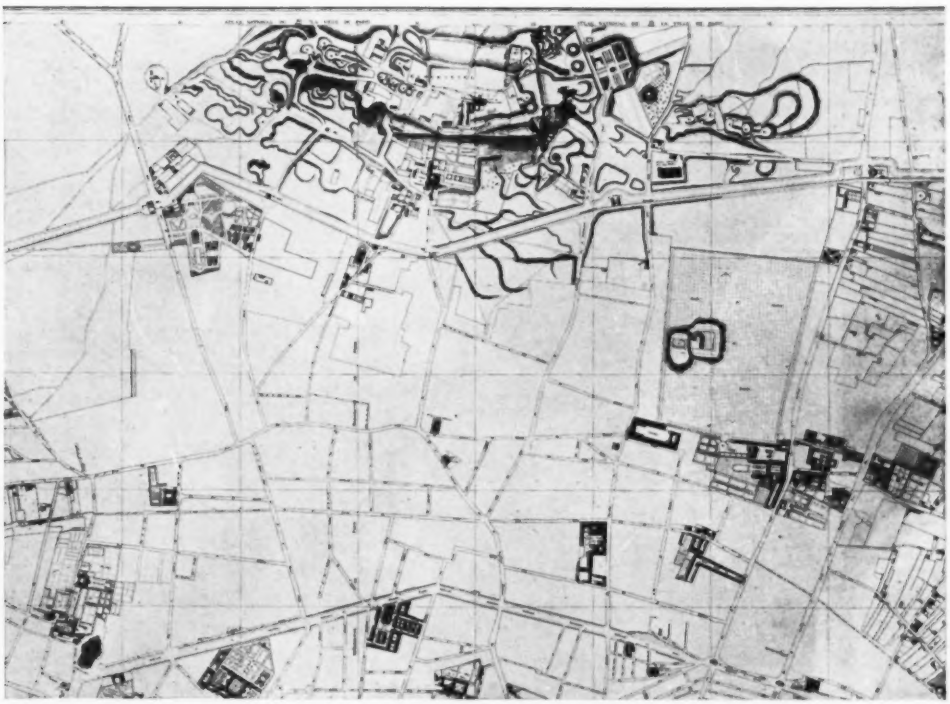


FIG. 2.—THE PLAN OF VERNIQUET (1791), SECTION 2.

of avenue and boulevard which did, at the beginning of the Revolution, and do now control the map of the city.

The Grand Boulevard is clearly defined in the plan of Verniquet from the Bastille, which is still shown, although destroyed in 1789, to the Place de la Madeleine. The names of the various parts differ a little. The arches of the Porte Saint-Denis and Porte Saint-Martin are, of course, in place, but the light wall of Louis XIV is not continuous. It was, probably, never completed. The

shows the Boulevard du Montparnasse built according to the plan of Bullet and Blondel (1676), and as it is today. The Boulevard des Invalides appears as it is today, but not as was intended by Bullet and Blondel. The eastern portion, beyond the present Carrefour de l'Observatoire, was loosely sketched by Bullet and Blondel, and is not shown at all in Verniquet.

It is interesting to find in this map the outer line of boulevards on the northern side—Rive Droite—developed precisely

as it appears today, except beyond the Place de l'Etoile, where the large operations of Haussmann have interfered greatly. These streets were built just outside the Mur d'Octroi, or tariff wall, contrived after 1784 for the benefit of the farmers of taxes in the reign of Louis XVI. To this *barriére* the architect Ledoux added an interesting series of edicules to be used as offices by the tax-gatherers.

du Faubourg Saint-Honoré, the Avenue des Ternes, the Avenue du Roule and Rue du Pont, to the old Pont de Neuilly, a little farther down the Seine than the present monumental bridge. This old road was a good street, similar in character to our Broadway, or Oxford Street in London. In any other town than Paris it would have answered well enough. But for the royal entrance to the home of French magnificence it was

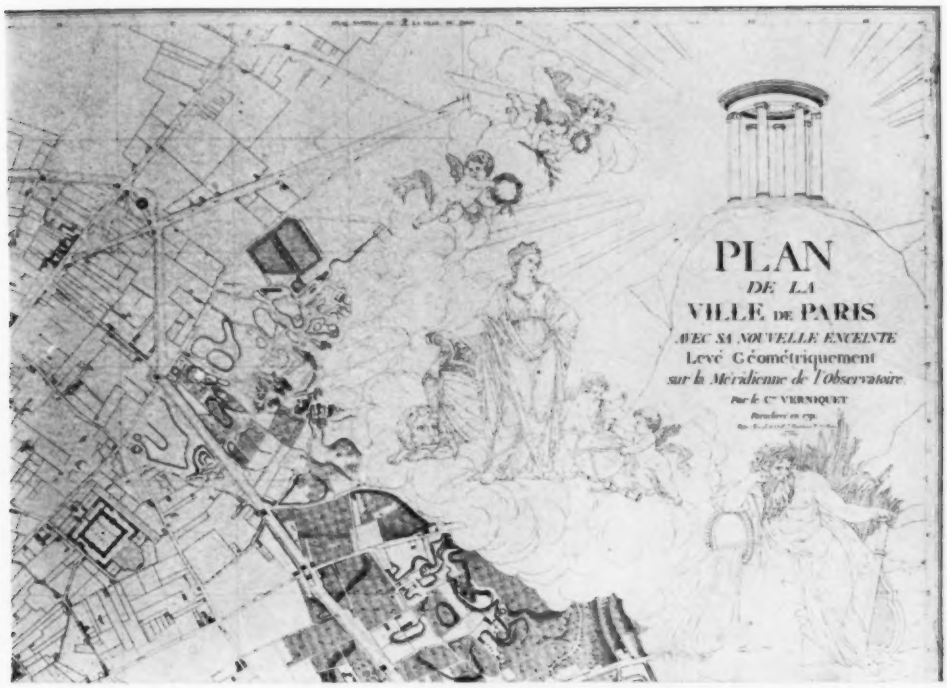


FIG. 3.—THE PLAN OF VERNIQUET (1791), SECTION 3.

The plan of Verniquet shows the great axial avenue from the Tuileries to Neuilly and Courbevoie as far as its limits permit. The entire length of the street is given in a beautiful map published by Perronet in his "Description des Projets et de la construction des Ponts" (1782), which we publish in the illustrations. (Figs. 11, 12.)

We must bear in mind in our study of this street that the old route to Saint-Germain lies only a short distance to the north in the line of the present Rue

not sufficient. The architects of Louis XIV. drew their *Via Triumphalis* in the axis of the city; straight, vast in width, and interminable in length.

Perronet shows the great avenue passing entirely through open country. Hardly a dozen buildings appear in its entire course.

The Plan of Verniquet shows the Place du Trône developed, and the Avenue de Vincennes corresponding in a monumental way to the Avenue de Neuilly. It is difficult to reject the con-

viction that an intention existed to carry the eastern avenue to the Louvre in an approach similar to that of the western avenue to the Tuileries.

All the region about the Invalides and the Ecole Militaire appears in Verniquet in its present condition.

We have devoted much attention to the plan of Verniquet, simply to show upon what sort of foundation Haussmann built. In this beautiful map the prophecy of Paris is perfect. The monumental lines are drawn. But that is all. They are drawn, but not constructed. Even at the moment of the installation of the Second Empire in 1852, the great avenues were little better than waste land. The space between them varied from open country in the outer regions to a dense mediæval condition near the center.

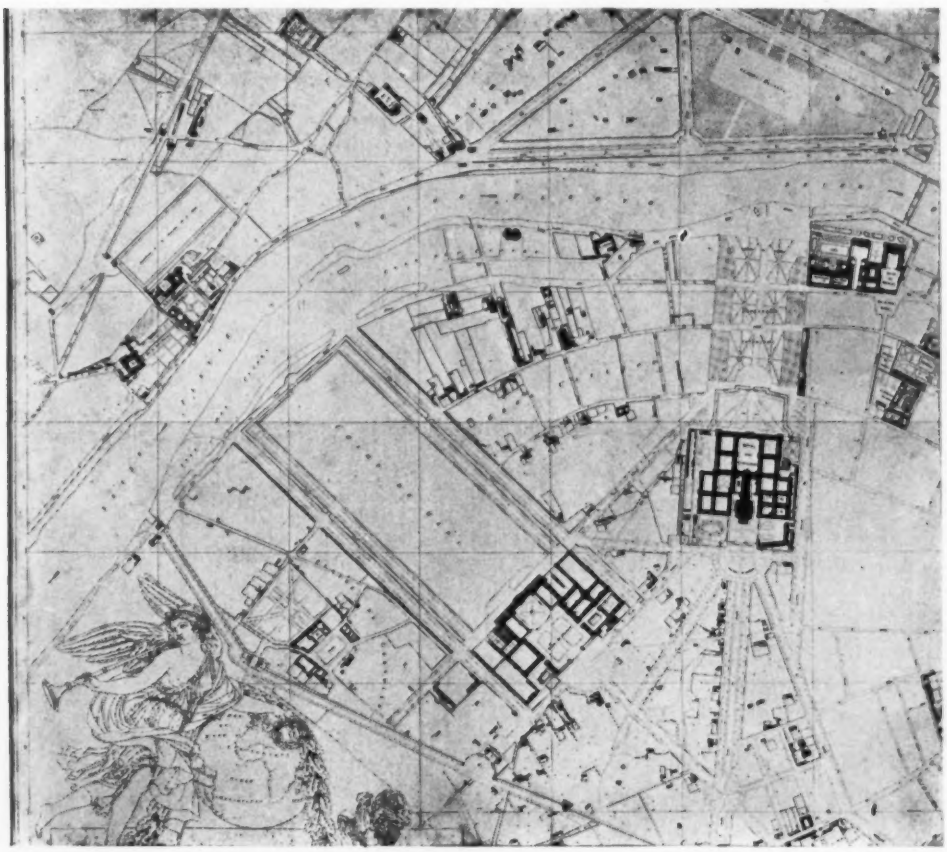


FIG. 4.—THE PLAN OF VERNIQUET (1791), SECTION 4.

The Revolution.

The rottenness of old Paris is a picturesque subject. The Romantic school of writers, Victor Hugo, Balzac and others have reveled in it. All European cities were in the same condition. London tidied herself up a bit in the early nineteenth century; Paris tried to do so, but did not succeed so well. Haussmann found the old city not much less rotten than she was when clever old Voltaire wrote "Des Embellissements de Paris" (1749). Voltaire foresaw Haussmann as clearly as did Colbert.

He says: "Nous possédons dans Paris de quoi achêter des royaumes; nous voyons tous les jours ce que manque à nôtre ville, et nous nous contentons de murmurer. On passe devant le Louvre, et on gémit de voir cette façade, monument de la grandeur de Louis XIV, du zèle de Colbert, et du génie de Perrault, cachée par des bâtiments de Goths et de Vandales. Nous courons aux spectacles, équestre de Henri-le-Grand, ces deux ponts, ces deux quais superbes, ce Louvre, ces Tuileries, ces Champs-Elysées, égalent ou surpassent les beautées de l'ancienne Rome, le centre de la ville, obscur, resserré, hideux, représente le temps de la plus honteuse barbarie, Nous le disons sans cesse; Mais jusqu'a quand le dirons-nous sans y remedier * * * * il faut des marchés publics,

FIG. 5.—THE PLAN OF VERNIQUET (1791), SECTION 5.

et nous sommes indignés d'y entrer d'une manière si incommode et si dégoûtante, * * * et d'en sortir avec plus d'embarras et de peine qu'on n'y est entré. Nous rougissons, avec raison de voir les marchés publics établis dans les rues étroites, étaler la malpropreté, répandre l'infection, et causer des désordres continuels. * * * Des quartiers immenses demandent des places publiques; et tandis que l'arc de triomphe de la Porte Saint-Denis, et la statue des fontaines qui donnent en effet de l'eau, des carrefours réguliers, des salles de spectacle; il faut élargir les rues étroites et infectes, découvrir les monuments qu'on ne voit point, et en élever qu'on puisse voir.

La bassesse des idées, la crainte encore plus basse d'une dépense nécessaire viennent combattre ces projets de grandeur que chaque bon citoyen a fait cent fois en lui-même."

Voltaire was the chief initiator of the

French Revolution. In the passages quoted above he reveals the attitude of the Revolution toward Paris. Our minds are so fixed upon a few years of anarchy in France at the end of the eighteenth century, that it is difficult to prevent the application of the word revolution exclusively to this period. The Revolution is the large general European move-

FIG. 6.—THE PLAN OF VERNIQUET (1791), SECTION 6.

ment toward the emancipation of human reason; which, except in France, is not yet complete, and in France was only recently completed. In England the Revolution has worked itself out gradually. For the most part changes have been made when they were required. The conservative French people, on the other hand, allowed pressure to accumulate until explosion became inevitable. But the anarchy of a few years was not the great French Revolution which has done its work so completely in the comparatively brief period of a century.

In the matter of civic construction the new movement did not call for splendor and monumental arrangement as the Bourbon monarchy had done. It cried out for comfort and convenience; straighter streets, broader streets, cleaner streets, more light, more air, good water, all those things which come to us today as matters of course.

In Paris it was also neecssary to consider military convenience. The city was bound to be more or less turbulent until the century of readjustment should complete itself.

The modern science of civic construction was not understood until the middle of the nineteenth century. It appears to have developed chiefly in England. The Englishman is more or less

blind to the claims of beauty and monumental splendor; but he appreciates fully the importance of health, comfort and convenience, and will do much to secure them.

During his long exile Louis Napoléon had been often in England, had come in contact with the advanced thought of London, and watched with great interest the hygienic and structural experiments made there. Probably the most impressive feature of the great "Transformation" was the perfect certainty and large comprehension of this man's knowledge of the science and art of City Building. Haussmann equalled him certainly. But it was Haussmann's *metier,* his exclusive occupation. He was not Emperor. He was not trying to ride a brilliant and powerful nation which had been caught and bridled out of hand.

But before we take up seriously the study of these two personalities we should see how much was actually accomplished towards the rectification of Paris in the nineteenth century before Haussmann received his appointment as Préfet de la Seine.

The stormy period of the Revolution did not accomplish much toward the improvement of Paris. Certain nuisances were removed, like the old Cimetière des Innocents (1787). The Bastille was destroyed with tremendous éclat (1789); but the Bastille lay in the way of the boulevard improvement, and would probably have disappeared quietly in a few years. The most important achievement of the period was the drafting of the so-called Plan des Artistes which was ordered by the Convention. It was based on the plan of Verniquet and suggested many improvements which were afterwards executed.

By abolishing the religious establishments the early Revolution threw open for improvement large areas of which subsequent development took advantage.

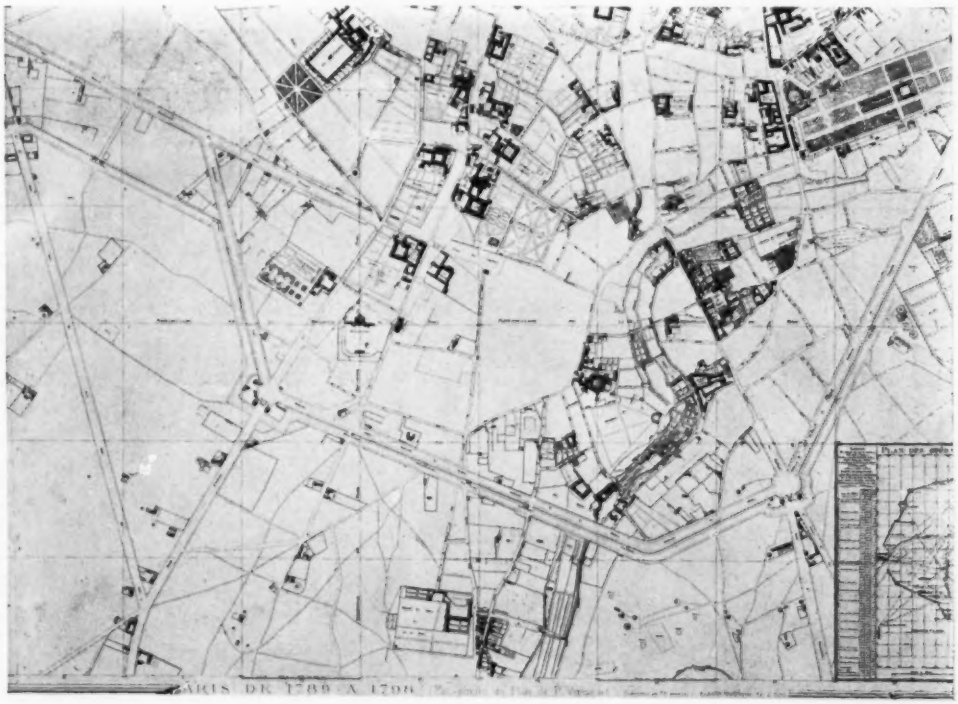


FIG. 8.—THE PLAN OF VERNIQUET (1791), SECTION 8.

The Empire.

Napoléon Bonaparte (Emperor 1804-1814) was deeply interested in Paris, and much disturbed because his capital presented such a shabby appearance. Bourienne declares that after success in war the embellishment of Paris lay next to his heart, "Je voulais" he declared (Mémorial) "que Paris divint une ville de deux, trois, quatre millions d'habitants, quelque chose de fabuleux, de colossal, d'inconnu jusqu á nos jours."

this a serious objection to the law, always himself preferring to cut through the blocks. Napoléon added sixty new streets, but the only one of first rate importance was the Rue de Rivoli. The history of this street will appear in connection with the discussion of Haussmann's Premier Réseau. It is sufficient to say here that the portion executed by Napoléon Bonaparte was simply that lying north of the Tuileries garden from the Place de la Concorde to the Rue des

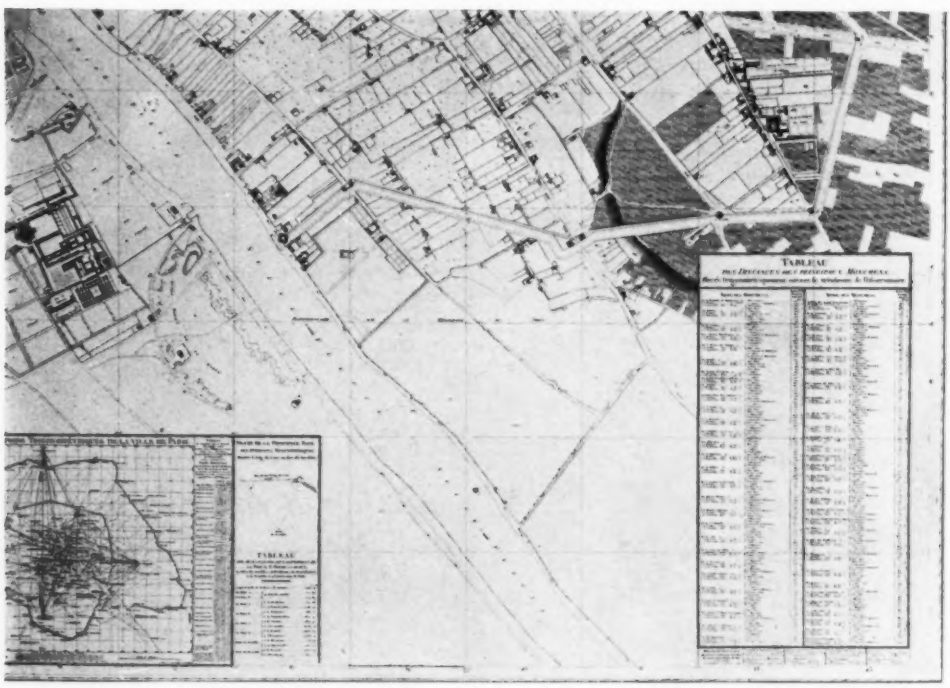


FIG. 9.—THE PLAN OF VERNIQUET (1791), SECTION 9.

As affecting the topography of Paris perhaps the most important act of Napoléon was the passage in 1807 of the first Loi d'Alignement, which gave to each street of the city a stated width to which it was necessary that future construction should conform. The action of this law has worked great benefit to Paris, but it has had the disagreeable effect of gradually effacing the old façades of the streets. Paris has lost many fine monuments in this way. Haussmann, it must however be admitted, considered

Pyramides. The long and narrow Manége du Roi, or riding school connected with the royal stables, seems to have determined its width and location. In establishing a definite convention for the design of the buildings with the arcade below, Percier and Fontaine, the architects of the Emperor, followed the precedent established by Du Cerceau in the Place Royale. It is possible that nothing more was intended than to improve the region north of the garden and palaces for residence.

Next in importance to the Rue de Rivoli was the Rue Napoléon, called since 1814 Rue de la Paix, in the axis of the Place Vendôme. The intersection of this street with the Grand Boulevard gave Haussmann a strategic point for the location of the Opéra with its two other approaches, the Avenue de l'Opéra and the Rue du Quatre Septembre.

In 1813 Napoléon took up the axial scheme of the École Militaire and Champ de Mars, and on the hill opposite, across the river, then occupied by the extensive enclosure of the Visitation de Sainte-Marie, began a sort of fortress palace

1	2	3
4	5	6
7	8	9

Fig. 10.—Key to arrangement of Plan of Verniquet. Section 7 gives the index and has been omitted on account of illegibility when reduced.—Editor.

which was to bear the title of the little Roi de Rome. The abandoned location of the Palais du Roi de Rome has been well occupied by the Trocadéro ensemble.

The scheme of the Place de la Concorde was completed by the Commencement in 1804 of the façade of the Palais du Corps Legislatif. The Place de la Bourse was begun in 1808.

Napoléon Bonaparte gave to Paris her finest commemorative monuments, all superbly adapted to the advanced axial scheme of the Bourbon designers. The Arc de Triomphe de l'Etoile begun in 1806 and finished by Louis Philippe in 1836, the Arc du Carrousel, begun in 1806 and finished in 1810, and the Colonne Vendôme, begun in 1807, would have been cordially approved by Louis XIV and his coterie of architects.

In a utilitarian way, and in line with the agitation of the Revolution, Napoléon's attitude toward Paris was most intelligent, and his accomplishment considerable. He built three thousand metres of new quais, cleared the superstructures from the mediaeval bridges and built the Pont des Arts (1802), Pont d'Austerlitz (1802) and Pont d'Jena (1809). He constructed sidewalks in some of the leading streets, the first sidewalks in Paris, and added ten thousand *becs de lumière* to their meager illumination. He established the four cemeteries of Montmartre, Pére Lachaise, Montparnasse and Vaugirard.

Napoléon's chief lieutenant was the Comte de Frochot, Préfet de la Seine from 1800 to 1812. He was succeeded by the Comte de Chabrol de Volvic, who retained his office under the Restauration.

The Restauration.

The period of the Restauration as the reigns of Louis XVIII (King 1814-1824) and Charles X (King 1824-1830) are called, was a dull time for the great city of Paris. In his Nôtre Dame de Paris, published in 1831, Victor Hugo gives an excellent description of the city in that day. "Le Paris actuel n'a donc aucune physionomie générale. Cest une collection d'échantillons de plusieurs siècles, et les plus beaux ont disparu. La capitale ne s'accroit qu'en maisons, et quelles maisons! Du train dont va Paris, il le renouvellera tous les cinquante ans. Aussi la signification historique de l'architecture s'éfface-t-elle tous les jours. Les monuments y deviennent de plus en plus rares, et il semble qu'on les voie l'engloutir peu a peu, noyés dans les maisons. Nos pères avaient un Paris de pierre; nos fils auront un Paris de plâtre."

The Rue de Lafayette, originally called Rue de Charles X, is the most important street added by the Restauration.

The July Monarchy.

The reign of Louis Philippe (King 1830-1848) is much more interesting. In his management of Paris the Orleanist King was broad-minded enough to appreciate the splendid intentions of Napoléon, and intelligent enough to understand the utilitarianism of the Revolution. In his creditable accomplishment

he was assisted by the Comte de Rambuteau, whom he made Préfet de la Seine in 1833. He held that office until 1848. Rambuteau had many of Haussmann's good qualities but lacked the brilliancy, and epic reach of imagination, which characterized the "Grand Préfet." Rambuteau was honest and thorough. He comprehended civic construction, as the science stood in the middle of the nineteenth century; but there was a lack of breadth in his attitude. He especially the Arc de Triomphe d l'Etoile and the Madeleine. The improvement of the Place de la Bastille was begun under Napoléon, although the Colonne de Juillet itself belongs to the reign of Louis-Philippe.

The outer line of fortifications was begun early in the reign and finished in 1841.

Louis Napoléon and Haussmann.

Our purpose is chiefly topographical. We are concerned with the plan of

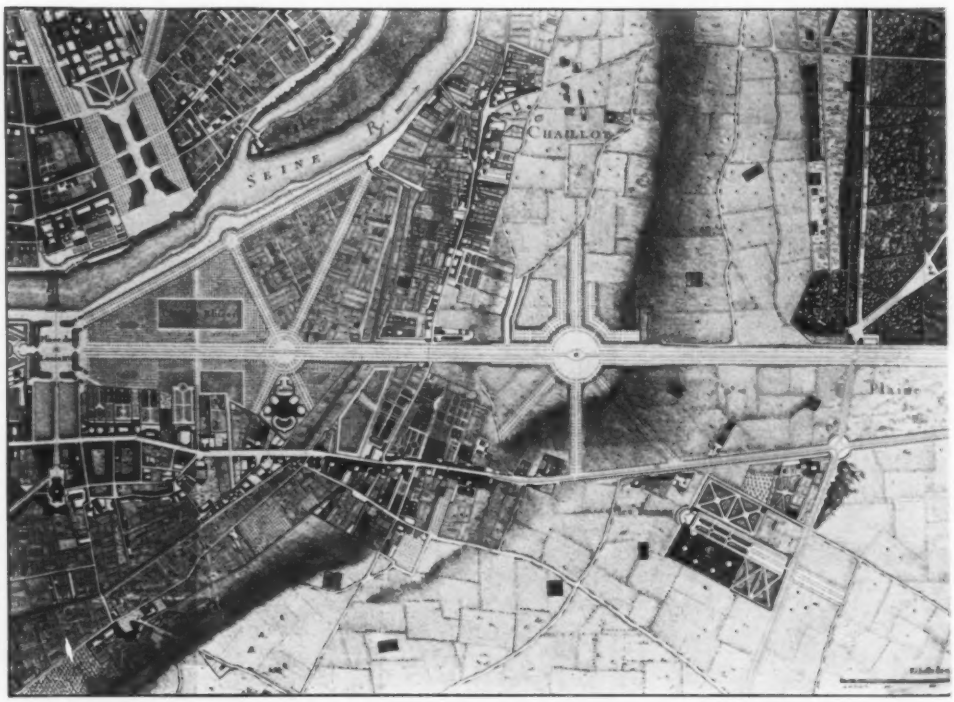


FIG. 11. THE TUILERIES-NEUILLY AXIS; PLAN OF PERRONET (1782).

did not realize how large a problem confronted him. The most important and characteristic addition of Rambuteau to the topography of Paris is the Rue de Rambuteau, an extremely useful street, but drawn without the slightest regard for the large ensemble of the city plan. On the utilitarian and hygienic side Rambuteau did much to improve the condition of the citizens of Paris. The July monarchy deserves especial credit for the generous way in which it took up and completed the Napoléonic monuments,

Paris. But the plan of a great city is not drawn offhand. It is the graphic resultant of many forces. In Paris especially we have a vast ensemble rushing impetuously into its future. When Napoléon said that he wished to make Paris "la ville unique du Monde" he simply expressed what was in every Frenchman's heart and what was logically the future of the city.

The growth of the population of Paris in the first half of the nineteenth century was prodigious. The figures are

approximately, 600,000 in 1804, 715,000 in 1817, 785,862 in 1831, 935,201 in 1841 and 1,053,897 in 1846; without counting the large population living between the Mur d'Octroi and the fortifications. Quite as rapid as the increase in population was the general scientific progress of the world in which Paris played a leading rôle. The forces of nature were coming under control, adding to the power of man and ministering to his comfort. The necessities of life were greater, and the means of supplying them correspondingly large. The most important of the new forces affecting the topography of cities was the newly discovered steam railway. This added to the permanent population of Paris a transient population of immense size, and produced extreme congestion about the circle of centers occupied by the new stations.

At the moment of the Revolution of 1848, and the declaration of the Second Empire (Dec. 2, 1852) all these forces were on the increase. The actual present was large but the immediately inevitable future, to those who could see then, and as we know today, was immensely larger.

Louis Napoléon has been branded as a charlatan. As Emperor, as heir to the great Napoléon, as a world figure, he certainly did not fill well the extraordinarily difficult rôle into which he had forced himself. But with the brutality of his début, with the vacillation and chicanery which placed him at the mercy of really strong men like Cavour and Bismarck, we have nothing to do. We are concerned with him simply as a Parisian, as the master of Paris. He understood perfectly the potentialities of Paris. He knew well that the mediaeval conditions still prevalent would not allow proper development to the tremendous forces then appearing in their lusty youth. He knew also that the French people appreciated the situation perfectly and would be satisfied only with a

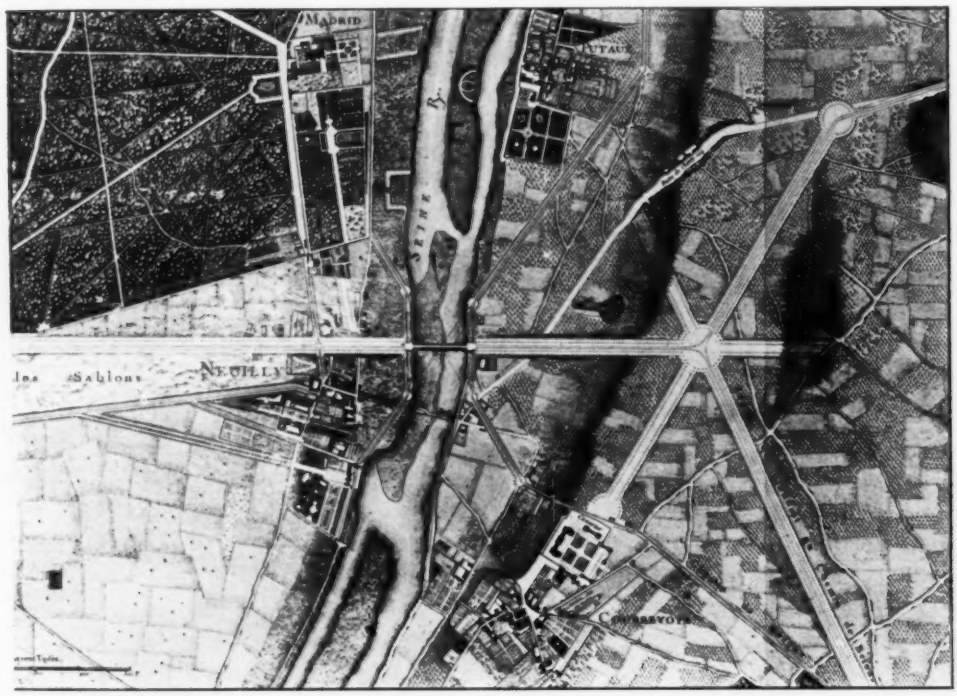


FIG. 12. THE TUILERIES-NEUILLY AXIS; PLAN OF PERRONET (1782).

large and generous management of impending problems. But Napoléon III. was utilitarian. His attention was held by physical, hygienic and social conditions. He did not despise artistic considerations, but was unsympathetic towards them. Left to himself he would have made Paris, as Rambuteau tried to do, very like London, or worse, like New York or Chicago. But to the everlasting advantage of all who love beautiful cities there was placed in his path precisely the man best qualified to supplement his own good qualities.

Georges-Eugène Haussmann (1809-1891) was not an architect; he was not even an engineer; he was a lawyer born and bred in Paris of a Protestant Alsatian family, well known in Parisian history. From the Ecole de Droit he passed at once into the public service (1830). His first appointment of importance was to the sous-préfecture of Yssingeaux in 1832. He passed from one sous-préfecture to another, until January 24, 1849, he was appointed to the préfecture of the Var by Louis Napoléon, then President of the Republic. On May 11, 1850, he was transferred to the préfecture of the Yonne. Haussmann's appointment to the préfecture of the Gironde, with headquarters at Bordeaux, which took effect Dec. 2, 1852, was part of the general scheme of the Coup d'Etat of the same date. He reached the culmination of his career with his appointment to the préfecture of the Seine, June 22, 1853.

Haussmann was an imperialist by conviction, and at the same time was moved by the warmest personal attachment for the man whose fortunes he followed. In all their vast undertakings the two men worked as one.

The great merit of Haussmann lies in the fact that he was able and willing to grasp the entire problem which confronted him. There was never any question of expedient, of doing an imperfect task to tide over an emergency. The proper and perfect solution of a difficulty was sought and executed.

In our topographical study we will be interested to see how perfectly he understood the plan of Paris, as an organized unity, the result of many centuries of growth. He accepted gratefully what his predecessors left him and all his effort was really only the completion of their work. It is easy to see at this moment that nothing less than that which he undertook and accomplished would bear the pressure which is brought to bear upon the plan of Paris at this moment.

Edward R. Smith,
Reference Librarian, Avery Architectural Library, Columbia University.

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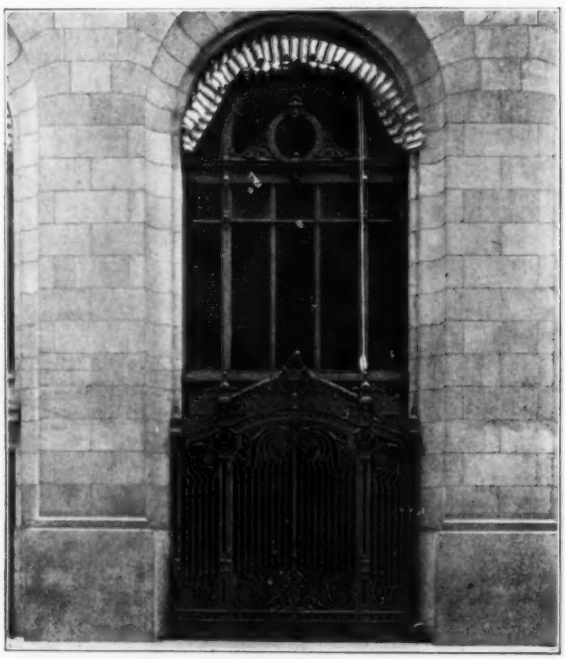
AMERICAN TRUST & SAVINGS BANK

CHICAGO



JARVIS HUNT, Architect

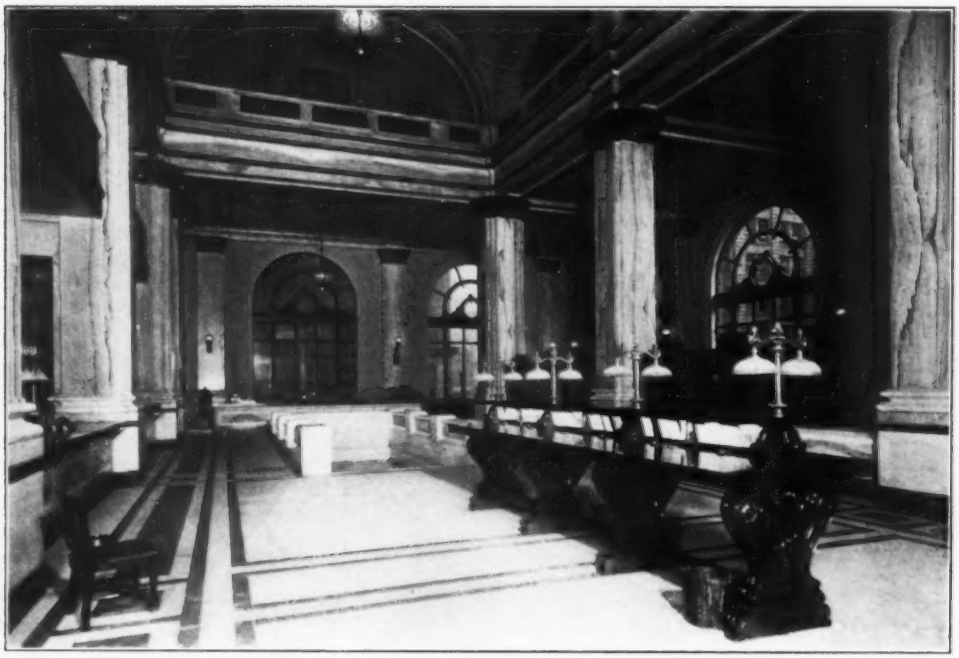


FIG. 1. BANKING ROOM, ON GROUND FLOOR.

FIG. 2.—SAVINGS DEPARTMENT IN THE BASEMENT.
AMERICAN TRUST AND SAVINGS BANK.
Monroe and Clark Sts., Chicago. Jarvis Hunt, Architect.

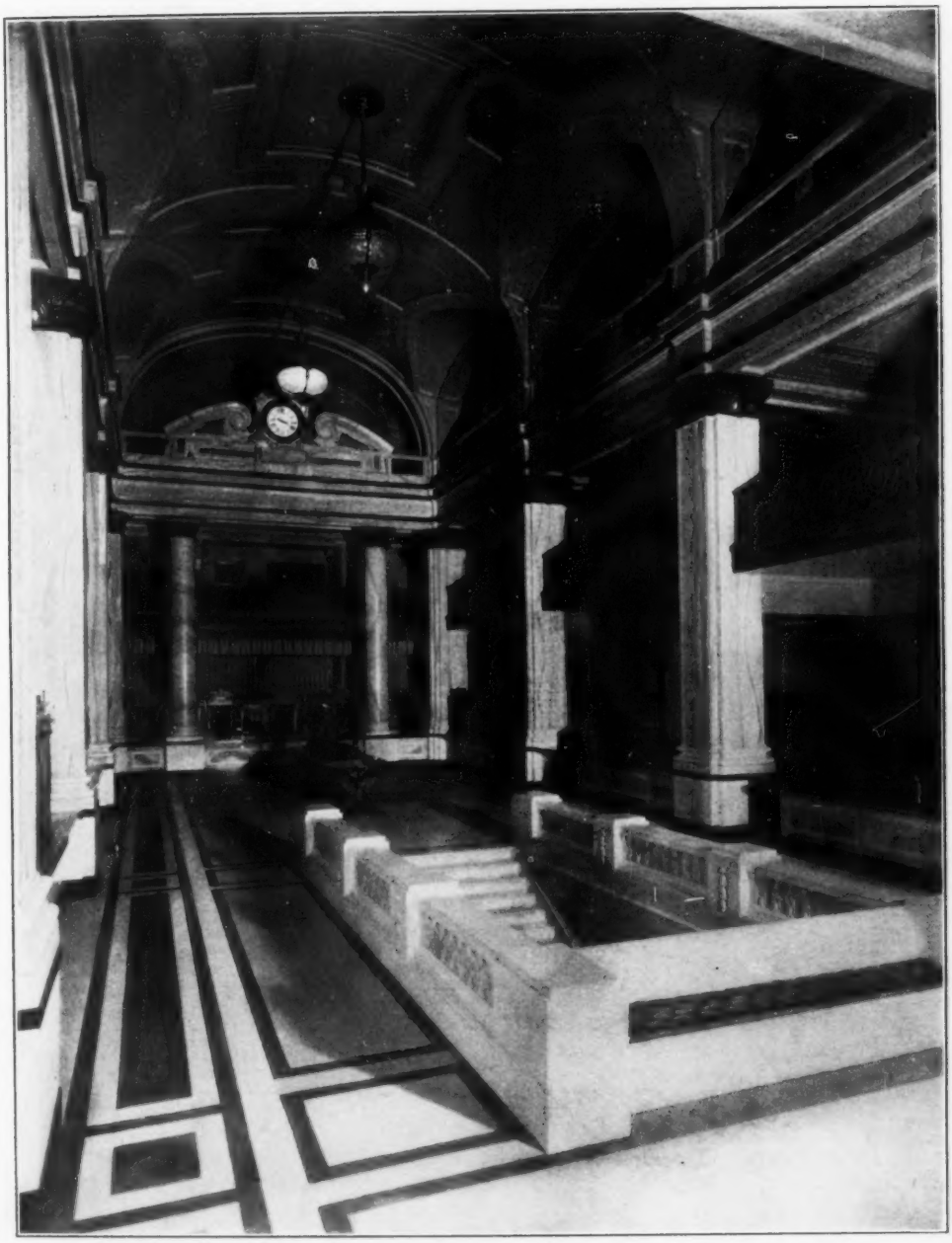


FIG. 3.—ANOTHER VIEW OF THE BANKING ROOM ON THE GROUND FLOOR.
AMERICAN TRUST AND SAVINGS BANK.
Monroe and Clark Sts., Chicago. Jarvis Hunt, Architect.

FIG. 4.—AMERICAN TRUST AND SAVINGS BANK.
Monroe and Clark Sts., Chicago. Jarvis Hunt, Architect.

NOTES & COMMENTS

ARCHITECTS AND CIVIC IMPROVEMENT

It is noteworthy, as showing the growing appreciation by architects of their special interest in the matter, that at the May exhibition of the Baltimore Architectural Club emphasis was put on the movement for the general beautifying of cities. The plans for the development of Washington, the ideal scheme that was outlined for San Francisco, the big Philadelphia improvements—the Schuylkill River front and the parkway from the city hall; the plans for the Williamsburgh bridge approach, New York; for the civic court in St. Louis, and many other schemes that are less well known were exhibited. This was perhaps the more significant because Baltimore has not been included in the movement. The elaborate report obtained there from the Olmsteds dealt with park problems only, and the chance that was offered by the great fire was allowed to pass with a widening of streets. But almost everywhere a longer view is taken now, and the architects—being especially fitted therefor by their training—are properly taking the lead in directing attention to the civic possibilities of our cities.

SOME PROMISING LEGISLATION

"It never rains but it pours." The long neglected cause of municipal aesthetics in Philadelphia—which has lately become triumphant with a mayor elected on a "City Beautiful" platform and faithful to his pledges—is so fortunate as to have one of its leaders, Andrew Wright Crawford, an assistant city solicitor. There was an account here a couple of months ago of a bill which he had drawn up, to enable cities of Pennsylvania to condemn land within two hundred feet of a park, parkway or playground in order to resell the same with restrictions. This bill, the most comprehensive and the first really general act on this subject in the United States, is now a law. For three other newly enacted laws that are exceedingly important to the cause of city beauty this valuable assistant city solicitor is also mainly or largely responsible. One is the Art Jury law, giving to Philadelphia a municipal art commission; one is a bill providing for shade tree commissions for the towns, cities and boroughs of the State; and a fourth makes possible the beginning of a suburban park system for Philadelphia. One feature of the Art Jury law, which seems to have escaped popular notice, marks a decided step in advance. It directs the commission, or "Jury," to make from time to time such recommendations for improvements to the city as it may deem advisable. There are great possibilities in this.

ARTISTIC UTILITIES

It is interesting to learn that a firm in a little town of Massachusetts has thought it worth while to specialize on the construction of artistic signboards, for street names, country road crossings, and so on. They are designed, states the advertising circular, by Henry Turner Bailey, of Boston; and the enterprising firm, whose name it is some temptation to give, announces its delight in making each sign a different problem, to be fitted to its particular place and need, and to have its own price attached to it. The illustrations show road signs and "cars stop here" signs; and the circular says that church signs are made and "business signs adapted to the building upon which they are to appear—signs which do not disfigure the work of the architect, but rather add to its effectiveness." Mention has previously been made here of another New England firm that has put an artistic trolley pole in the market. Such practical work as this has a twofold significance. If it does not definitely show that there actually is a demand for well-designed utilities, it at least shows a faith in the immediate rise of such a demand; and it will do more than can a whole fusillade of merely destructive criticisms aimed at aggressive billboards and dilapidated signposts. To offer a good thing instead of a poor thing comes pretty close to winning the fight against the poor one. Civic art in towns has much to hope from such experiments.

COMMISSION ON CHURCH ARCHITECTURE

The canon providing for a commission on Church Architecture, for the Episcopal diocese of Newark, N. J., which was described here in May and was said to be likely of adoption, has been in fact adopted. The committee to whom it was referred reported unanimously in its favor, stating their belief that it "would do much to elevate the character of our church buildings, as well as guard against serious errors of judgment and defects of taste." "We are all agreed," continues the memorial, "that the church building should attract and not repel. It should be an inspirer of reverence and devotion. In many ways it should be a teacher of truth. Moreover, for these purposes its power is not dependent on its costliness or its elaborate ornament." Finally the committee expressed itself as "of the opinion that no such provision as this canon contemplates has yet been made in any diocese of the American Church. They believe, moreover, that, in view of the practical importance of the matter in secular as well as ecclesiastical affairs, as witnessed by the formation all over the land of municipal art commissions, the Church should lose no time in taking some definite action such as that proposed." This is the real significance of the movement. The commission is composed of the Bishop, and of two clergymen and two laymen appointed by the Bishop. Its approval of plans is made mandatory upon missions; but only advisory upon parishes, which, however, are required to obtain the advice. Properly constituted, the commission is likely to prove a helpful ally to conscientious architects.

TRAINING OF ARCHITECTS

Through the enterprise of The Chautauquan, a paper on "Architecture and Civic Progress." that was prepared for last year's convention of the American Civic Association by Professor Frederick M. Mann, of Washington University, St. Louis, has been printed. It includes in its discussion an interesting study of statistics relating to the training of American architects. Putting the blame for urban "architectural monstrosities" on the shoulders of inadequately educated architects—where certainly a good deal of it belongs—the essayist finds, by investigating a business directory, that there are in the United States "about five thousand practitioners calling themselves architects." He thinks that "perhaps three thousand of these have begun practice within the last decade." Now, the American schools of architecture are graduating at this time "about one hundred men each year," says Professor Mann. He adds: "Since the number has been so large only during the past three or four years, it would be a safe assumption, I think, to say that the total number of graduates in the whole decade has not exceeded seven hundred and fifty. While many of these eventually found their way into other callings, the total number has probably been maintained by the incoming of foreign trained men. Among the architects who began practice more than ten years ago the proportion of schooled men is yet smaller. It will, therefore, be a conservative statement to say that of all the architects of the country at most only seven hundred and fifty in three thousand, or one in four, have had a systematic training for the profession they are practicing." At this point there is likely to be, at least from the older men, a protesting question as to wheher any "schooling" is better than the experience to be gained in a good office. But Professor Mann says: "While no one would contend that all the schooled men do good work, nor that all unschooled men do uniformly poor work, it is clear that too large a proportion of the men who design the buildings to beautify or to mar our cities are men who have had little or no opportunity to gain a liberal education, to learn the theory of architecture, or to train systematically the artistic gifts with which nature endowed them." Professor Mann notes an improving tendency, which, he remarks, the public can vastly accelerate by a demand for a higher level of work.

HONOLULU POST OFFICE SITE

The final decision regarding the site for the new post office building in Honolulu was a victory for municipal aesthetics. It followed a fight that was none the less hard because it was fought by wire and letter and word of mouth instead of through the newspapers. This is the story: In 1906 Mr. Robinson made a report on the improvement of Honolulu. He perceived that a new post office was soon to be a live question, and in planning a civic center for the town he pointed out where the structure ought to go. A year passed. Congress made the expected appropriation, various sites were tendered, including the Palace Square location which Mr. Robinson had urged, and the government sent an

agent to Honolulu to investigate and report. Some of the other sites were owned by influential citizens, and the treasury representative, selecting one of these located some two blocks from the Palace Square, sailed away. His decision was not announced at the time, and had to be learned after he reached land. Word was immediately hurried to Mr. Robinson. His civic center scheme was imperiled as far as immediate success was concerned. Could he save it? The matter was carried at once to Secretary Cortelyou, he was given the maps and shown the plan, appeal was made that he take a larger view than the treasury's agent had taken. The answer was prompt and discouraging. Immediately on receipt of the agent's report, the government had cabled its acceptance of the other site. The argument had come too late. The government could not retract if the owners of the selected property met the conditions imposed, which included the opening of a new street. Meanwhile matters had been stirring in Honolulu. A petition had been prepared, begging for the Palace Square location, and it had been signed by nearly all the leading citizens—by Sanford B. Dole, for instance, first president and governor; by Henry E. Cooper, former secretary of state and pretty much everything else, by President Griffiths, of the College, by Chief Justice Frear, by the government's forester, and very many others. But the petition was later than the argument. Still, the owners of the selected site, with the best public opinion unfavorably disposed, found it less easy than expected to get the street opened. Appeal was made to the governor, but he also was affected by the More Beautiful Honolulu bacillus and favored the Palace Square. The best he could do was to refer the street question to a committee of citizens. The congressional delegation visited the island, and appeal was made to have the site settled before the congressmen left. But leading members of the party, who happened also to be members of the public buildings committee, announced themselves as favoring the site that would make possible the beautiful civic center that had been planned. Then Governor Carter came to the United States, and paid a visit to Washington—as was proper; and while he was there the former decision was reversed, and the government selected the site in Palace Square. There will now be grouped around this historic space the executive offices, the courts, the territorial survey office, the old native church with its royal tombs, and the new federal building.

BOSTON CATHEDRAL PROJECT

William Howe Downes recently contributed to the Boston "Transcript" a long discussion of the project for establishing the proposed Protestant Episcopal cathedral of Boston on an island to be constructed in the Charles River. It will be remembered that some years ago a woman made a bequest of a million dollars to the cathedral fund. This is a pretty satisfactory nucleus, and action taken at the diocesan convention in the spring seemed to commit the church definitely to construction. Further, several of the plans brought forward last winter, by the Boston Society of Architects, for the development of the Charles River basin included schemes for putting an island in the river. In the plans of both A. A. Shurtleff and R. A. Cram it was proposed that the cathedral stand at the west end of the island. Thus the pertinence of Mr. Downes's discussion. The site—for which the location of Notre Dame De Paris provides a convenient precedent—offers the advantages of isolation, of conspicuousness where no buildings would ever hide it, and yet a location as central perhaps as any to the metropolitan population. "If, as I hope, the cathedral is to be a Gothic building," says Mr. Downes, "it ought to have a very lofty, beautifully outlined and well-proportioned stone tower, in which case the island site would insure perpetual and uninterrupted view of this tower from every point of view, with the reflection of it in the surrounding waters." This is more satisfactory than his following statement that "many of the best Gothic cathedrals in the world suffer greatly from the encroachment of squalid surroundings," for often these enhance the effect; or than his nomination at this time of the desirable architect—an appropriate nomination, but premature. Contrasting the suggestive plans of Messrs. Shurtleff and Cram, he favors Cram's. The island, as the latter sees it, follows closely the Ile de la Cité—about a third the size of Shurtleff's—but is a better site in many ways than Notre Dame's. Put on the west end of the island, the cathedral's west front would face the river, with nothing between it and the water but a great open place planted with trees and shrubbery. If the western towers were approximately two hundred and twenty-five feet high, they would be at about the same distance from the water on either hand as their height. The island would gradually narrow to a point at this end, bringing the shores near enough to the cathedral to war-

rant the exclusive use of all the land at this extremity by the cathedral grounds and buildings. "Mr. Cram happily places the proposed Deerfield Street bridge to the westward of the cathedral site," says Mr. Downes, "and arranges for a circle (or a circus, as they call it in London) in front of the cathedral. His sketch shows cloisters, chapter house, lady chapel, library, and other customary connected structures. These extend both north and south of the main edifice, which has a long nave, a square apse, a rather faintly defined transept, and a lofty square tower at the crossing—not a mongrel pyramidal tower like that in the plan of the New York cathedral, but a true Gothic tower of the English type, which our good friend Baedeker always refers to as 'Perp.'" Mr. Cram would give his island high stone embankments crowned by balustrades, broken by statues, "with domes and towers of public buildings, civil and ecclesiastical, rising above a circle of trees, the whole reflected in the still water," etc. "Although this is still only a vision," remarks Mr. Downes, "it is to be remembered that no great public improvement of any kind ever created in the history of the world would have been realized if it had not been first conceived in the imagination of some one. Great schemes are always called visionary when they are first broached. It was not so very long ago that the Charles River basin improvement was called visionary. 'Your old men shall dream dreams, your young men shall see visions,' said the prophet Joel. There would be no progress if it were otherwise." And he has already noted that "no town in the world ever had such an opportunity to make itself world famous for stately beauty as Boston has in this Charles River basin."

A COURSE IN ARCHITECTURE AT TULANE UNIVERSITY

At the opening of the session of 1907-08 there will be offered in the College of Technology, a course in architecture, extending, like other regular courses, through four years, and leading to a collegiate degree. In addition to the required subjects to be taken under the present faculty, the special architectural subjects will be taught by competent, highly-trained specialists, as follows: Samuel S. Labouisse, Bachelor of Engineering (Tulane), Bachelor of Science in Architecture (Columbia), student in Rome and Paris; Moise H. Goldstein, Bachelor of Engineering (Tulane), Bachelor of Science in Architecture (Mass. Institute of Technology), student in Europe; and Professor William Woodward, of the College of Arts and Sciences. Lectures will be given during the course by local architects on practical subjects bearing upon the work of the professors.

The requirements for admission will be the same as those for other courses in the College of Technology, and, as in other courses, no student will be admitted as "special" who is under twenty years of age.

For further information apply to Mr. Richard K. Bruff, Secretary of the University.

JAMES H. DILLARD, Dean.

FOURTH EXHIBITION OF PITTSBURG ARCHITECTURAL CLUB

The Pittsburg Architectural Club is getting ready to hold its fourth architectural exhibition in the new art galleries of the Carnegie Institute during the month of November, 1907, and expects to have one of the largest National exhibitions ever held in this country. The special features will be:

1. The foreign section consisting of drawings from almost all European countries, especially France, England, Germany and Austria. From the latter two countries there are expected a number of most interesting interiors.

2. One gallery devoted entirely to the new Movement of Architecture of Exteriors and Interiors as developed in the United States.

3. A department for drawings from the leading technical schools and colleges.

4. A section devoted to sculpture and liberal arts, but in liberal arts this will be limited principally to original drawings.

The officers of the club this year are: President, Richard Kiehnel, of the firm of Kiehnel & Elliott, architects; Vice-President, D. A. Crone, architect; Secretary, Stanley Roush; Treasurer, James Macqueen; Chairman of Entertainment, Thomas Herron, architect. Any one who may desire to exhibit should address the exhibition committee, Richard Kiehnel, Chairman, 902 Publication Building, 209 Ninth st., Pittsburg, Pa.

The "Sweet's" Catalogue Problem Awards

IT IS our pleasure to announce that the gentlemen mentioned below have been awarded prizes as specified for the best four papers on the solution of the Catalogue Problem, offered by "SWEET'S" through the columns of this journal. The great number of documents presented was the occasion for the unavoidable delay in making public these awards.

The results of the competition are highly gratifying to the publishers of "SWEET'S," who take this opportunity to thank the architects for their active interest in the matter. The premiated competitors are:

First Prize—GEO. E. JENNINGS, 341 Fifth Avenue, New York.

Second Prize—HENRY G. EMERY, 68 Bible House, New York.

Third Prize—OSCAR B. SMITH, JR., 1 East 27th St., New York.

Fourth Prize—W. A. C. ROGERS, Greenmount and Olive Sts., Baltimore, Md.

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THE SUBURBAN HOME.